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OHIO

MEDICAL AND SURGICAL JOURNAL.

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No. 1.

Original Communications.

*Murder by Poisoning.—Court of Common Pleas of Hardin Co., Ohio, December Term, 1860. [Before Wm. Lawrence, Judge.] The State of Ohio vs. Peter Priest. Reported by Hon. Wm. LAWRENCE, Judge of the Court of Common Pleas of the 3d Judicial District of Ohio; and T. G. WORMLEY, M.D., Professor of Chemistry and Toxicology in Starling Medical College, Columbus, O.**

The indictment charges that defendant administered metallic arsenic, on the 2d day of May, 1860, to Joseph Saul, in Kenton, Hardin County, with intent to kill.

* The writers propose to report a series of trials for murder by poisoning, in which one or both have been engaged within the last few years. All matters of a legal nature and of general evidence will be reported by Judge Lawrence; those bearing upon medicine, pathology and chemistry, by T. G. Wormley. These reports will be based entirely upon the written evidence taken at the time of each trial.

The principal reported cases of murder by poisoning, in Ohio, are:

Farrer v. State, 2 Ohio St. R. 54; S. C., 9 West. Law Journal.

Summons v. State, 5 Ohio St. R. 325; S. C., 9 West. Law Journal.

Robbins v. State, 8 Ohio St. R. 131.

State v. Culbertson, Vol. 15, No. 6, Ohio Medical and Surgical Journal, November, 1863—Common Pleas of Muskingum County, Ohio.

State v. Hiram Cole, Common Pleas of Geauga County, Ohio, September Term, 1857—Ohio Med. and Surgical Journal, Vol. 11, No. 4, March, 1859.

C. H. Gatch and *John N. Abston* appeared for the State.

A. S. Ramsey and *L. Hoge*, for defendant.

The evidence in this case tends to show, that Joseph Saul, an infirm old man residing in Franklin county, Ohio, conveyed his property there, worth about \$1000, to Peter Priest, in consideration of which Priest agreed to support him during his life. That Priest married an adopted daughter of Saul, raised by him, and Saul resided with Priest and his wife; that Priest sold his Franklin county property, and bought a small farm in Paulding county; that he with his wife and Joseph Saul started to remove from Franklin county to Paulding county, to reside there; that on the way Saul was taken violently and suddenly sick, at Big Island, Marion county, shortly after he went to bed; that the next day they went on to Kenton, and staid all night at the house of a relative of Priest the defendant, where Saul died on the night of the day after which they arrived, and was interred the next day, May 5, 1860, in the cemetery near Kenton.

There was evidence tending to show that Priest had threatened to kill Saul, that Saul was burthensome to Priest.

On the 13th June, 1860, the body of Saul was exhumed. The gall bladder with a portion of the liver attached, the stomach and a portion of the small intestines, were taken out and delivered to Professor T. G. Wormley of Starling Medical College, Columbus, Ohio, for chemical analysis.

The evidence against the defendant was circumstantial, tending to show the administration of arsenic, neglect in speedily procuring a physician, inattention in giving medicine during the last illness, hasty burial, with other circumstances indicating guilt.

The defense gave evidence tending to rebut and explain the evidence for the State.

The medical evidence was substantially as follows:

Dr. John T. Baughman examined.—I was acquainted with Jos. Saul; I was present when his body was exhumed. The surface of the body was in a gangrenous condition, assuming mortification. It was not, strictly, mortified, but the skin was becoming discolor-

ed. It must have been two months before I saw him exhumed, that I last saw him. I was present at the *post-mortem* examination of the body. The stomach was in a considerable state of inflammation. The upper portion of the small bowels had been in a high state of inflammation; lower down the bowels the inflammation was less. The liver presented a yellowish deposit. There were some little traces of this yellowish deposit on some portions of the bowels. It is difficult to learn, from a *post-mortem* examination, that a person had died from arsenic.

Dr. Munson examined.—I made the *post-mortem* examination of the body of Jos. Saul. The appearances were those already described by Dr. Baughman. I took out the stomach entire, with a portion of the small intestines attached; also a portion of the liver. The portion of liver taken out had the gall bladder attached. The parts taken out were carefully inclosed in a glass jar, sealed, and labeled. They were directed to Professor Wormley, Columbus, Ohio.

Dr. J. F. Hance examined.—I was present at the *post-mortem* examination of the body of Jos. Saul. The appearances were those already described. The first time I saw the deceased was on Thursday evening, the 3d day of May last, when he was alive. I found him much prostrated and laboring under gastro-intestinal inflammation; his pulse was feeble and intermittent. He was not suffering much pain, but was rather comatose; his bowels were very much swollen and hard, somewhat tympanitic. He did not seem to be sick at the stomach. I attempted to rouse him, but could not. I gave it as my opinion that he would be dead in the morning. I prescribed a cathartic, and warm applications to the bowels. I saw him again about 11 o'clock that night, and found him in about the same condition. The next morning I saw him again, and found him still sinking. I did not see him again until about 9 o'clock in the evening, when he was still in about the same condition. I do not know that the medicine I had left him had been administered. The next morning I found him dead.

Prof. T. G. Wormley examined.—Late in the afternoon of the

14th of June last, the express agent at Columbus, Ohio, delivered to me at my laboratory, a box which I here recognize. It had placed upon it a letter, which was tacked over two of four screws which secured the top of the box, in such a manner that the box could not be opened without removing the letter. This letter was directed to my address at Columbus, Ohio. I locked the box up in my laboratory, and it remained there till June 20th untouched. On the morning of that day I removed it to the laboratory of Starling Medical College, and there opened it. I found it to contain saw-dust, in which was packed a bottle about this size, and bearing a similar label. The bottle contained some animal matter and some fluid, which, when taken out and examined, proved to be a human stomach, to which was attached a portion of the small intestines; it also consisted of, apparently, a portion of human liver with gall bladder attached. I immediately prepared to submit these parts to analysis, using the stomach and portion of small intestines for one series of investigations, and the portion of liver and gall bladder for another.

I will now detail the analysis of the gall bladder and liver. In connection with the condition of accompanying organs, the liver was in a comparatively good state of preservation; it was tough, and cut with great difficulty with scissors; the gall bladder was whole, but had apparently been very much inflamed; it contained about two teaspoonsful of thick fluid. These organs (the liver and gall bladder) were introduced into a large porcelain dish and there acted upon by distilled water, which was mixed with about one-sixth of its volume of hydrochloric acid; the mixture was then boiled for about three hours, with the gradual addition of small portions of chlorate of potash; by this time the whole mass became fluid—that is, the organs had all dissolved. After the mixture cooled it was filtered through muslin, and then through filtering paper; it was then allowed to stand about twenty-four hours, when it was again filtered through paper. The solution had then passed into it sulphuretted hydrogen for twenty-four hours; at the expiration of this period there was quite a marked deposit having a

dark yellow color; this was filtered from the solution, and may have consisted of the sulphurets of either arsenic, mercury, antimony, tin, or some other metals, or only of organic matter. This residue was acted upon by a few ounces of pure ammonia, which would have dissolved the sulphuret of arsenic, if present, and some organic matter: it might also have dissolved a small portion of sulphuret of antimony, if present. The other metallic sulphurets would not have been dissolved. This ammoniacal solution was then filtered to separate foreign matter; the solution was then evaporated to dryness, and then treated with strong nitric acid, and evaporated to dryness. The residue was then mixed with caustic soda and carbonate of soda, and then heated and again nitric acid added, and again heated. It was then dissolved in a small quantity of water and some concentrated sulphuric acid added, then evaporated to dryness and strongly heated. It now left a white residue. The organic matter being entirely destroyed the residue could now only consist of arsenic, salts of soda, and a trace of antimony, if this metal had been present in the original mixture. This residue was acted upon by a small quantity of pure water, which would dissolve the salts of soda and the arsenic but not the antimony. Under these circumstances the arsenic would be in the form of arsenic acid. It was now filtered and a stream of sulphurous acid passed into the solution; this would change the arsenic into arsenious acid, which is the state most favorable for the application of the re-agents. To a small portion of this solution hydrochloric acid was added and then a stream of sulphuretted hydrogen. This immediately produced a yellow precipitate, which could have been nothing else than the sulphuret of arsenic, as tin and cadmium, which also under certain conditions yield yellow precipitates with this re-agent, would have been separated by previous manipulations. I here present the liquid with its precipitate. This is a sulphuret of arsenic. Reinsch's test was then applied. The other is known as the sulphuretted hydrogen test. A portion of the liquid was acidified with hydrochloric acid, and heated to boiling; then small slips of clean copper were intro-

duced into the boiling liquid; these immediately became coated with a gray metallic covering; some of these I here present, with a slip of the copper not used, as a sample. This deposit, under the circumstances, could have been nothing else than metallic arsenic. There were twenty of these slips of copper thus coated; a few of them were introduced into a small tube and heated to redness; immediately a ring of crystals were volatilized or sublimed against the side of the tube in the form of crystals. I here present the tube with rings. This confirms beyond the possibility of doubt that the deposit upon the copper was metallic arsenic.

Marsh's Test.—1st. A small portion of the original fluid was introduced into Marsh's apparatus, and the jet of gas lighted, which burnt with a white, smoky flame. A piece of cold porcelain was then depressed into the flame, and this immediately received a metallic deposit. I present two pieces of this porcelain here. These, under the circumstances, could have been nothing else than arsenic; one of these spots was acted upon by the hydro-sulphate of ammonia, and it was not dissolved. Antimony, under the same circumstances, would have been dissolved. Another spot was acted upon by bleaching salt of lime—it was dissolved; antimony would not have dissolved. 2d. The horizontal portion of the tube through which the gas was passing from the Marsh's apparatus, was now heated to redness, and immediately there was a metallic deposit produced beyond the point heated; this could have been due, under the circumstances, to no other substance than arsenic. 3d. The gas was passed into a solution of nitrate of silver; it immediately produced a dark precipitate from which the liquid was filtered, and proved to contain arsenious acid. All these three reactions of Marsh's test prove beyond a doubt the presence of arsenic.

Ammonia sulphate of copper test.—To a portion of the original fluid, properly prepared, ammonia sulphate of copper was added, and it immediately produced a beautiful green precipitate, known by the name of Scheel's green, being a compound of arsenic and copper. These are all the tests applied to the liver and gall bladder.

I will now detail the analysis of the stomach and small intestines. The two openings into the stomach were tied. Upon cutting the organ open the internal surface showed signs of extensive inflammation and disorganization, more especially that portion toward the small intestines, which was very much ulcerated, the mucous membrane being in some places entirely destroyed. This inflammation also extended into the small intestines. The stomach and small intestines were cut to pieces and treated in precisely the same manner as has been detailed in regard to the liver and gall bladder. The same test being applied to the resulting solution with the same results, indicating the presence of arsenic; but not in as large quantities as found in the liver. There was a fifth test applied to this solution. It was the *ammonia nitrate of silver*; this produced a yellow precipitate which indicated the presence of arsenic. These five tests constitute the principal tests relied upon by chemists for the deduction of arsenic. Each one under the conditions applied proved by itself the presence of arsenic. The ordinary mode of ingress of arsenic is through the mouth and throat into the stomach; it is taken up by the blood and carried to different portions of the body, and partly deposited in these portions. This is more especially true of the blood that passes through the liver. I cannot say how much arsenic was in these parts, from the fact that there was no estimate of the quantity made. This would have consumed so much of the material as to preclude the application of some of the important tests. The largest quantity was found in the liver; this would show that the arsenic had entered the circulation and had been diffused through all the organs of the body, so that nothing short of an examination of the whole body would suffice to show the absolute quantity of arsenic present. My profession is that of a chemist and physician; am not at present a practitioner of medicine. Have been a Professor of chemistry about nine years, in Capitol University, and part of that time in Starling Medical College. The symptoms of arsenic introduced into the stomach are pain in the stomach, great thirst, vomiting and purging; vomiting is usually continuous; the

pain in the stomach is generally very severe and extends down into the bowels. These are the more prominent symptoms of poisoning by arsenic, but there are individual cases where some one or more of them are absent. The appearances after death are not constant and uniform. The action of the poison is often confined to the mucous membrane of the stomach; this is true though the arsenic be introduced into the body in some other way than by the mouth. The action on the stomach gives rise to inflammation of the mucous membrane. This extends down into the intestines. Sometimes the stomach may have a yellowish appearance; this might be due to the production of yellow sulphuret of arsenic. All the re-agents and apparatus used in this examination were known to be absolutely pure beyond a doubt. The liver was in a comparatively good state of preservation, considering the time. Arsenic is a preservative of animal structures—used in preserving anatomical specimens. I presented the arsenic here exhibited as the production of the results of examination. It could not possibly have come from any other source than the stomach.

The amount found in the stomach, &c., would be an unsafe dose—it would be less than an ordinary fatal dose—about three-fourths of the liquid obtained was used in the examination which gave these results. About one-fifth of the whole liver was used. Not able to state, from what arsenic I received, the whole amount of arsenic in the man, but the quantity found in liver was apparently greater than that found in the liver of an individual that I recently examined, whose stomach contained half an ounce of arsenic. The arsenic could not get to the liver direct from the stomach. It is taken up by the blood and the liver receives it from this fluid—it passes out of the system in various ways.

There was enough arsenic found in the tissue of the liver to indicate that enough arsenic had been introduced into the system to produce death. I was assisted, during this entire investigation, by Wm. Watt of this place, who acts as my assistant. None of this material was ever in his possession.

Cross examined.—From the quantity of arsenic found in this body, couldn't say how long it would take to produce death. The symptoms and effects seem to have little or no relation to the quantity taken, when it exceeds about two grains. Authors cite a case in which 40 grains proved fatal in fifteen hours; in another case 480 grains did not prove fatal for seventeen hours, and in another over 500 grains did not prove fatal—it was thrown off. It is a mooted question, whether the habits of a man, will effect the result of the quantity of arsenic taken. If taken in quantities, in themselves not fatal, it would depend upon frequency of doses. Arsenic will not accumulate in the system; it is not an accumulative substance. A man may take repeated doses without producing poisonous effects. The symptoms of sickness will appear in from two to four hours—some cases immediately, others in eight or ten hours. In this case, I should expect the poisonous dose would show its effects in from a half to one hour. Death generally takes place in from twenty to thirty-six hours. My re-agents *might* have contained arsenic, but they were examined and tested, in this special case, and were pure; they contained no arsenic. Great care was taken that it could not be introduced extraneously. No one had access to them when I was not by. Arsenic is not a normal constituent of the body. It may be found in earths and graveyards. The first usual symptom is dryness in the throat, then sickness of stomach, followed with pain, &c. These symptoms may exist without arsenic, and arsenic may exist in the stomach without all these symptoms. It would be a rare case to find all these symptoms independent of the presence of arsenic. Arsenic is destitute of taste; I never could experience any—have taken as much as was safe to take. Chemists understand by arsenic an elementary substance, but the name arsenic is frequently applied to arsenious acid. The arsenic upon the copper here is metallic arsenic; the other is arsenious acid.

The case was argued by counsel, after which the jury were fully charged by Wm. Lawrence, Judge. Verdict—not guilty.

Murder by Poisoning with Strychnine.—Court of Common Pleas of Marion county, Ohio, March Term, 1858. State of Ohio v. Edward Robbins. Reported by Hon. Wm. LAWRENCE and T. G. WORMLEY, M.D.

The defendant was tried for the murder of Nancy Holly by administering strychnine to her on the 29th of July, 1857. Some of the questions of law involved in the case will be found in *Robbins v. The State*, 8 Ohio State Reports, 131, in which it was first held that an *intention to kill* is necessary to constitute murder in the first degree in cases of poisoning, contrary to the common law doctrine, and perhaps the grammatical construction of the Ohio Murder Statute. *Com. v. Desmarteau*, Sup. Court Mass., 24 Boston Monthly Law Reporter, 155, July, 1861; 1 Russ. on Crimes, 482; Wharton's Am. Cr. Law, sec. 930; Wharton on Homicide, 33, 358; 5 Western Law Monthly; *State v. Summons*, 9 West. Law Journal, 410 per Thurman, J.

Defendant's counsel moved to quash the second, third and sixth counts of the indictment, because they do not contain an averment that Nancy Holly *did not know* when she took the strychnine that it was strychnine, or any other poison.

By the Court, Wm. LAWRENCE, Judge: The forms of indictments, as found in the books, are not uniform as to the averment now in question. Thus the following forms contain it: *State v. Summons*, in Warren's Criminal Law, 33; *State v. Farrer*, in Warren's Criminal Law, 34; Wharton's Criminal Precedents, 57, 61, 63, 64; 3 Chitty's Crim. Law, 773, 775; Manor's Crim. Law, 236; Davis' Precedents, 185.

The forms in Wharton's Precedents, 53, 62, 63, 66, do not contain the averment. And so *Regina v. Alison*, 9 Carrington & P. 418. I do not find any elementary book, or reported case, which requires the averment, unless the *Summons* case, 9 West. Law Journal, 410 is to be regarded as such authority. Judge Thurman in that case remarks:

"For if his [defendant's] intent was to poison some one else [not the deceased], and she [the deceased] in ignorance took the

poison, and in consequence of doing so died, he is equally guilty under this indictment as if his specific design had been to destroy her" [the deceased].

If the deceased *knew* she was taking strychnine, and even consented to take it to produce death by procurement of the accused, then the defendant is guilty of murder as shown by numerous authorities. 4 Blackstone, 189; 1 Hawk. P. C. ch. 27, sec. 6; Keilw. 136; Moor, 754; *Rex v. Sawyer*, 1 Russ. 424; *Rex v. Evans*, 1 Russ. 426; 4 Chit. Bl. 190, note, also 201; Wharton's Law of Homicide, 98-158; *Com. v. Bowen*, 3 Mass. 359; *R. v. Alison*, 8 C. & P. 418; *R. v. Dyson*, Russ. & Pry. C. C. R. 528; 4 Chit. Bl. 34-142, note; Roscoe Cr. Ev. 203-722; *R. v. Russell*, Moody C. C. 336; Wharton Prec. 37, 46, 66, note; 34 Eng. C. L. 458; 19 Eng. C. L. 425; 4 C. & P. 369; 2 Arch. Crim. Pr. (Waterman's Notes) 252; 1 Russ. on Cr. 50S.

Yet to hold the averment necessary, is to ignore all these authorities, and exempt from guilt all who can persuade the ignorant and deluded to consent to die by knowingly taking poison.

The averment, if made, is mere surplusage, and need not be proved. 1 Chit. Cr. Law, 174-232; 1 Greenl. Ev. sec. 60 n.; Wharton Cr. Law. 292.

It is possible a reason might exist at common law for the averment. By that law suicide was a crime, punished by forfeiture of the goods of the *felo de se*, and admitting of accessories before the fact. 4 Blackst. 189-190.

A person *actually present* giving poison to a suicide was a principal in the crime, or if absent, but having prepared and advised the taking of poison by a person ignorant of its poisonous quality, he was still a *principal*. 4 Blackst. 34. But as the *felo de se* who *knowingly* took poison prepared by the persuasion of an absent person committed a crime punishable by disgraceful burial and forfeiture of goods, the absent person in such case was deemed an accessory before the fact, and as such might be indicted and punished. The English indictments, therefore, averred that the deceased did not know of the poisonous qualities of strychnine ad-

ministered so as to make the accused a *principal* and not an accessory merely.

But in Ohio suicide is not punished as in England. One who procures another to commit suicide is a principal, and can not be an accessory. The averment, therefore, has no significance, and is unnecessary here.

The motion to quash is overruled.

The principal evidence given during the progress of the trial was substantially as follows:

Ferdinand C. Ruhermond examined.—I first saw the person whose name is reported to be Nancy Holly, on Main Street, in the town of Marion, about 2 o'clock P. M., July 28, 1857. She was speaking to some men. I next saw her passing up the street. I soon saw her again and asked her some questions. She said she had lived at Union where her husband had died about five months previous, and she wished to go to Cleveland. I found she had not money enough to take her there. I engaged her to come to my house and do general house work. She staid at my house that night, and I saw her the next day at breakfast, dinner and supper. When I came home to supper my wife remarked that Nancy had told her that she expected to be confined in about three months. I told my wife not to say any thing about it to Nancy, and that I would speak to her myself in the morning, and propose to her to go to Cleveland.

In the evening about 10 o'clock, as I was about to close my saloon, A. D. Mathers, came to me in great haste, and told me that my wife wanted me to come home immediately, as that strange woman at my house was very sick. I started and run very fast. Before I got to the house I heard her scream. When I ran into the house my wife said that woman was very sick up stairs, and she was afraid she was going to die. I ran up stairs. Nancy was screaming and making very great noise. I went up to the bed and requested her not to make so much noise. She was lying on her back with her arms stretched out, and shaking, twitching and

convulsed. I ran back to procure a physician and met A. D. Mathers, who volunteered to go. I returned to the house. She, Nancy Holly, asked for water, and asked me to hold her. She suffered very severely from strong spasms. I cannot say positively if they continued all the time, but they were more severe at some times than others. I judged so because I held her wrists with my hands, and in her spasms she raised my weight entirely off the floor, as I was bearing down upon her wrists. At the same time the women had hold of her feet. She seemed to be convulsed all the time more or less until she died. From the replies she made to questions, I should judge she was perfectly rational all the time. She seemed to be aware that she was dying. She replied to a question just before she died. She said, O Lord! send for a Doctor, I must die. She said this some time after I came into the room. A physician did not come before she died. She died about three quarters of an hour after I came to the house. I am certain I heard her exclaim, "O Lord! I must die." When I requested her not to scream so, she said she could not help it. I did not notice her eyes particularly—her face kept remarkably natural. At one time she asked for air. The window at the head of her bed, and the door of her room were open. It was a warm evening, and all in the room experienced oppression.

Prof. J. L. Cassells, testified as follows.—I reside in Cleveland—am a physician and professor of Chemistry in Cleveland Medical College. I have been a physician since 1834, and for twenty-two years a teacher of Chemistry and *Materia Medica*. Strychnia taken in poisonous doses acts solely on the spinal chord after being taken in circulation, and does not affect or act upon the brain. It expends its power upon the spinal chord. A person may die of strychnia and not have the mind impaired at all—they never do. The symptoms of death by strychnia are these: the first symptom is a sensation of heat and thirst in the stomach—then a pulling back of the head—then several tetanic convulsive twitchings—these

twitchings are sudden jerks, bending of column of spine, rounding of chest, difficulty of breathing, sense of suffocation, setting of teeth, firm closing up of mouth and muscles of throat or tetanus—the whole surface of the body sensative to touching or moving of bed clothes or sounds—the surface of the body generally moist and the mind clear—the fingers bent in—the toes bent in—the hollow of the foot concave and muscles bent. These continue until death ensues, and then the body is rigidly stiff until decomposition. These tetanic convulsions involve all the voluntary muscles under the control of the will. I think, from the extreme violence of the attack of strychnia on the system, common people would think death would ensue. It is difficult to say whether a person dying of strichnia would be more conscious of approaching death, than persons dying of other causes—there being no previous diseased action, they might think they could come out of the convulsions. I might add we have other diseased action resembling strychnia in its results—thus, children have spasms by eating indigestible substances, and women have hysteria, which common people might mistake for strychnia convulsions. The statements as to strychnia are predicated on the idea that the patients knew they had taken strychnine, but it would be so if they knew they had taken any drug, and experienced the same symptoms, provided the mind was not impaired. I should think that the symptoms experienced from strychnine poison, from the very first attack, suggests the idea of approaching death, from the severity of the symptoms, especially the sense of suffocation.

Cross Examined.—I heard the evidence of Ruhermond, and he did not speak of suffocation as a symptom. Strichnine could not exist as a poison in the system without the sense of suffocation. I should think a patient would be very apt to allude to the sense of suffocation, and it would be very obvious to the observer. The shutting of the teeth and the contraction of the muscles along the throat described by Ruhermond, the witness, could not very easily

take place without involving the large muscles of the chest, which would give the sense of suffocation. With regard to the eye, so far as my experience and the books are concerned, strychnia is not uniform, sometimes the eyes are enlarged and sometimes not involved at all. There is probably not a great deal of pain in the chest, but there is a great distress there, just as though a person was pressing. There is not acute pain any where further than that experienced by cramping, it is a disagreeable sensation, not acute pain, and this extends to all the voluntary muscles. In the absence of the sense of suffocation a person would not apprehend death any more than in hysteria, or other disease producing similar symptoms. I have known cases of hysteria where the sense of suffocation existed. Strychnia is taken into the circulation, and operates upon the spinal cord, and thence on the nerves that reach the voluntary muscles.

[The foregoing evidence was offered to lay the foundation for proof of dying declarations of Nancy Holly.]

Ferdinand Ruhermond recalled.—Nancy Holly requested me to give her some water, and I attempted to do so but she could not swallow. I asked her if she had taken any thing; she replied yes—a quinine powder given her by a Doctor. She afterwards replied that his name was Edward Robbins, and that he had given her the medicine for the purpose of destroying her child.

Mary A. Ruhermond examined.—I am the wife of Ferdinand Ruhermond. I first saw Nancy Holly on the 18th of July—I think it was the 18th. She came to my house in company with my husband. She said she was going to Cleveland where she had an aunt, and that her husband had died about five months previous. She said she wanted to get work. The next day she inquired if there was any place here where they took sick people, and said that she expected to be sick in about three months. She retired about 9 o'clock that evening. Soon after she came down for water, which she took up stairs in a glass. As I was about to retire I

heard a noise, which I thought was on the street. I heard no more noise and went to bed. After I got to sleep I again heard hallooing, and found it to proceed from up stairs. I went up and asked Nancy what was the matter. She was still screaming, and said, "Oh, can't you get a Doctor—I must die." Seeing that she was getting a spasm, I dashed some water in her face. I think this was the most severe spasm I saw her have that night. She continued to say, "Oh, I must die." I did not see her die.

Nancy Thorp examined.—I saw Nancy Holly on the night of her death, just before Mr. Ruhermond came in. She exclaimed, "O Lord, I must die." I remained in the room until her death. She said she could not help screaming. She asked for some water. She said she had taken a quinine powder given to her by a Doctor. She afterwards said that the Doctor's name was Edward Robbins, and that he had given it to her for the purpose of destroying her child. I heard her say twice that she must die.

R. L. Sweeney examined.—I practice medicine in Marion. Between 10 and 11 o'clock on the night of July 29th, 1857, I was called to visit a lady who was sick at the house of Mr. Ruhermond. I found the woman dead. She was lying on her back, with her head slightly inclined to the left and very much drawn backwards. Her complexion was dark, as was also the surface of the body; rather livid; the pupil of the eye dilated; all the voluntary muscles were in a state of rigid contraction. Her arms were flexed, and also her hands; her fists not tightly clenched, but her fingers closed and contracted. Her arms were flexed so tensely on her chest that it was impossible to move them with any ordinary power—at least the power we used to move them raised the body before the arms would yield. Can't say how long the body was dead. It was still warm, and there seemed to be some perspiration or moisture upon the surface. I think it was not more than two minutes after I was called until I reached the body. Her feet were extended and concaved; her legs were slightly thrown apart.

The muscular rigidity continued as long as I had any knowledge of the body. On the room stand I found one or two spoons, one of which presented the appearance of a powder having been taken out of it, as some little particles of the powder still adhered. I also found on the stand a piece of paper which had the appearance of having been folded. Upon examining this paper I found a small portion of a white powder adhering to it. The powder had a very decided bitter taste, similar to that of strychnine. I think I could distinguish the bitter of strychnine from any other bitter substance by tasting. I carried the paper, with another paper which seemed to be an outside wrapper, to Professor Cassells in Cleveland. A *post-mortem* examination of the body was made on the 30th July, 1857. The bowels, externally, appeared healthy; all the internal organs of the abdomen appeared healthy. She was pregnant with a six months' foetus. We found a large amount of dark blood in the examination of the abdomen. On examining the chest we found a slight adhesion of the left lung; there was no other appearance of disease in the chest. The heart was healthy. I removed the stomach and its contents and delivered them to Professor Cassells at Cleveland, Ohio.

J. M. Christian.—I am a physician. I fully concur in the statements of Dr. Sweeney. I did not see the body until after death. The appearances after death were such as would arise from strychnine. If she died from the effects of a poison, I should say that it was strychnine.

[The dying declarations having been given in evidence, Professor CASSELLS resumed his evidence as follows:]

Dr. Sweeney brought me the stomach of Nancy Holly, on the 30th July, 1857, and also a paper—this paper, which I have kept in my possession ever since. [The papers are here produced, found in the room where Nancy died, as folded by Dr. Sweeney.] In the inner paper I found a white powder attached to the inside. There was a very minute quantity. I tested this for strychnia—

the white powder in the paper. I applied what is called Otto's test, which is adding sulphuric acid to the powder, and dropping into this a minute crystal of bi-chromate of potash. I applied this on white porcelain. This gave a very delicate lilac color, which is indicative of the presence of strychnine, and I of course concluded that the powder on the paper was strychnine, or some of its salts, which are equally poisonous with strychnine. I made no other test of this—this was satisfactory, and is the most approved test.

I then proceeded to examine the stomach. I first examined the inside of the stomach, which was healthy—it had not been opened before it reached me. I took the contents of the stomach then, which were about a half a pint of liquid matter—filtered this through muslin, added acetic acid to it, then boiled it, filtered this through paper, evaporated it to near dryness, added chloroform, then filtered this through paper, and evaporated this to dryness over a vapor bath, then applied the same test—Otto's test, to what remained, which gave no indication of strychnine or its salts.

Then I took the stomach and cut this into small pieces—boiled it in distilled water with acetic acid—filtered through muslin, evaporated it to near dryness, then added chloroform, evaporated this to dryness and applied Otto's test, which gave strong indications of strychnine. That is the result of the examination of the stomach, and the contents of the papers. I am satisfied from these tests that strychnine had been taken in the stomach. I have no doubt of it. The probability is that the strychnine adheared tenaciously to the mucous membrane of the stomach, and perhaps some of it might have been in the substance of the stomach, and hence the reason why I found strychnine in the substance of the stomach, but not in its contents. It was not washed out when I took the contents out. I was satisfied of the presence of enough of the strychnine in the stomach to have produced death, for the reason that a medicinal dose is so small as not to leave any of the strychnine.

nine in the substance of the stomach, and the minimum poisonous dose which produces death, leaves none of the strychnine in the substance of the stomach, so that an individual could not possibly live after taking sufficient to leave some in the stomach. While there is any particle of it remaining in the stomach after death, the death must have been produced by it.

[In the above examination of the stomach and its contents, it will be observed that the cut tissue of the stomach was boiled with water containing acetic acid, and the strained liquid, after being evaporated to near dryness, treated with chloroform. The chloroform was then evaporated to dryness, and the residue examined by "Otto's test, which gave strong indications of strychnine."

Now under these conditions it is absolutely impossible that strychnine could have been present in the chloroform residue, from the fact that it would have been present in the strained liquid obtained from the stomach tissue, in the form of acetate, in which form it is insoluble in chloroform, and therefore could not have been extracted by this liquid. As the same method of analysis was followed in the examination of the contents of the stomach, the poison would not have been detected, even if present in large quantities, and therefore its non-detection, under the circumstances, was no evidence that it was not present. If the precaution had been taken to render the liquid alkaline before treating it with chloroform, and thus set the strychnine free from its acetic acid combination, then it would have been in a form in which the chloroform could dissolve it, and therefore would have been taken up when treated with this liquid. But even if this precaution had been taken, without further purification than stated above, the original liquid would have contained so much foreign matter which would have been extracted along with strychnine when the mixture was treated with chloroform, that the test applied would have failed to show its presence, unless possibly there had been an extraordinary quantity of the poison present in the contents of the stomach; it is certain that

in all cases it would have failed to detect the poison present in the substance of any of the tissues. Again, it is remarkable that the chloroform, if thoroughly agitated with the above acid liquid, separated at all, as it usually, when agitated with as complex organic liquids as the above necessarily must have been, forms a white frothy mixture, from which it does not separate upon repose.

This is at least the second instance in this country, in which chemical witnesses have sworn to the presence of a poison, when, under the circumstances, as detailed in their evidence, it was absolutely impossible for it to be present in the substance examined by their tests.]

W.

[The paper is here produced containing the powder found in Robbins' house, up stairs.]

I tested this powder, and it is strychnine. It is the same powder produced here on trial heretofore. Strychnine operates very speedily after it is taken into the stomach—producing death in from fifteen minutes to an hour and a half. I have known instances where death occurred in an hour, and some in three-quarters of an hour. Some individuals are much more susceptible to the action of strychnine than others—owing perhaps somewhat to temperament. I have heard the examinations of Drs. Sweeney and Christian, and I do not think of any thing further to suggest as to symptoms resulting from death by strychnine. The sense of suffocation is universal. I think it remarkable that the sense of suffocation should not be observed—should not have been observed in this case. It would generally attract the attention of ordinary observers. Calling for air would be one evidence of a sense of suffocation, but I think it would be observable from other indications. The sense of suffocation might not have been observed, and I wonder that so much was so intelligently observed in relation to the symptoms. In the excitement which would prevail, and with persons having no medical skill it is not remarkable that the sense of suffocation should be overlooked, and I think the

witness displayed an unusual degree of observation in noticing so many things as he described. There is no question but this individual died of strychnine.

For additional evidence see *Robbins v. Ohio*, 8 Ohio State Reports 135—145.

The case was argued by JOHN F. HAME and OZIAS BOWER, for the State.

Among the points made and authorities cited were these:

If defendant gave poison to Nancy Holly, in Shelby county, to be taken to Cleveland, or wheresoever she might go, and there take it, and if she took it in Marion county, defendant is guilty of administering poison in Marion county 1 Bowvier Dic. 80 Title—Administering.

Rex v. Wm. Cadwin, 2 Eng. Cr. Cases, (1 Moody), 114.

King v. Hannah Harley, 19 Eng. Com. L., (4 Car. & P.) 369.

Com. v. Earl, 1 Wharton Pa. R. 555; 3 Greenl. Ev. sec. 135; Common to kill paramour, *King v. Russell*, 1 Moody Eng. C. C. 356, a case of this kind, so of Helen Jewett and Maria Cornell.

James H. Godman, Jacob S. Conklin, Peleg Bunker, for defendant.

By the statute, administering poison is one crime and causing it to be administered is another. Therefore, defendant cannot be convicted of administering poison in Marion county, since he was not here; and he is not indicted for causing it to be administered. Crimes Act, sec. 1; Wharton. Am. Crim. Law, 81; Russ. on Cr.

Circumstantial evidence unsafe. Cases of conviction of innocent parties—1 Western Law Journal 241, 528; 4 West. Law Jour. 25.

Dangerous to rely on dying declarations of Nancy Holly. Smollett says, the most potent agency for evil is a corrupt, disappointed woman. See 4 Book of the *Aeneiad*,—the story of Dido and *Aeneas*.

After argument the jury was charged by WM. LAWRENCE, Judge. The charge is reported in full in 8 Ohio State Reports

147; in which case, also, will be found the ruling of the Supreme Court upon various legal questions. Verdict of guilty.

At 11 o'clock, Saturday, March 27th, 1858, the prisoner was brought into court. Counsel present.

By the Court.—The defendant, Edward Robbins, is now in court. A motion has been filed by his counsel for a new trial, and I understand counsel now to submit it without argument.

Counsel.—The motion is submitted.

By the Court.—I have duly considered the motion for a new trial, and after the most mature consideration of the whole case in all its respects I am constrained to overrule it. The evidence in the case clearly justifies the verdict of the jury. The defendant's guilt was proved beyond any reasonable doubt.

I have considered and reconsidered the charge given to the jury upon the law of the case, and I feel that it was not only correct in every particular, but so written, as to secure to the defendant every legal right to the fullest extent, and at the same time direct the attention of the jury to every consideration, both of law and fact, which could properly be suggested by the Court in his favor. Conscious of no error whatever—confident that the majesty of the law has been vindicated in a cause demanding it, the motion for a new trial is overruled.

The prisoner was then sentenced to be hung on the 18th of June, 1858.

THE STATE OF OHIO,
vs.
EDWARD ROBBINS. } Indictment for murder in the 1st degree.

The defendant now comes and moves the Court to set aside the verdict rendered by the jury in this case and grant a new trial for the reasons following, to-wit: 1st. Because the verdict of the jury is against the evidence and for the State when it should have been for defendant.

2d. Because the Court erred in admitting in evidence to the jury the declarations of Nancy Holly.

3d. Because the Court erred in charging the jury that it was not necessary to the conviction of the defendant of the crime of murder in the first degree, that the jury should find that the defendant intended to take the life of Nancy Holly.

4th. Because the Court erred in charging the jury that they must either acquit the prisoner altogether or find him guilty of murder in the first degree.

5th. The Court erred in charging the jury that it is the exclusive province of the Court to determine what the law is, and the jury have no right to hold the law to be otherwise in any particular than as given to them by the Court.—March 25, 1858.

SUPREME COURT OF OHIO.

Edward Robbins v. The State of Ohio.

Writ of error to reverse the judgment of the Court of Common Pleas of Marion county.

BARTLEY, Ch. J., held:—

1. That a party, indicted for murder in the first degree, has no right, under the present state of the law, to elect to be tried in the District Court, as he had under the former constitution of the State, to elect to be tried in the Supreme Court of the county.

2. The rule, that a judgment on a general verdict of guilty on an indictment containing several counts, some of which are good and some bad, be sustained, is not varied by the circumstance that a demurrer of the defendant to the bad counts was overruled, after which the defendant plead not guilty to the whole indictment, it not appearing from the record that the defendant was prejudiced by the introduction of evidence under the bad counts, which was not competent under the good counts.

3. Evidence of dying declarations is not excluded by the constitutional provision, that the accused shall be allowed to meet the witnesses face to face—the objection to such evidence going to the competency of the evidence, and not to the competency of the witness.

4. It is essential to the admissibility of dying declarations as evidence, that it should be made to appear to the Court by preliminary evidence not only that they were made *in articulo mortis*, but also made *under a sense of impending death*, which excluded from the mind of the dying person all hope or expectation of recovery.

5. In all jury trials it is the peculiar province of the jury to determine the questions of fact and that of the Court to determine the questions of law presented, and in the trial of a criminal cause it is the duty of the jury to receive the law as determined by the Court, and no juror can right-

fully disregard the law as declared in the instructions of the Court to the Jury.

6. The overt act of homicide by *administering* poison, within the meaning of the law, consists not simply in prescribing or furnishing the poison, but also in directing and causing it to be taken, so that if the poison be prescribed and furnished in one county to a person who carried it into another county, and there, under the directions given, takes it, and becomes poisoned and dies of the poison, the administering is consummated, and the crime committed, if committed at all, in the county where the person is poisoned.

7. Where a drug is administered to a woman pregnant with a quick child, with intent not to kill the woman, but to produce abortion, and the woman dies from the effects of the drug, the offense can not constitute murder in the first degree under the criminal statute of this State.

8. In case of homicide by administering poison, or causing the same to be done, the accused can not be convicted of murder in the first degree where there was *no purpose or intent* to kill the person poisoned, inasmuch as the statute of this State has made *purpose or intent to kill* an essential element of that degree of homicide for which the punishment of death is inflicted.

9. Murder at common law has been superseded by our statutory provisions in relation to homicide; and, although in homicide committed in administering poison, or in perpetrating or attempting to perpetrate either of the felonies mentioned in the statute, the turpitude of the felonious act is made to supply the place of the *deliberate and premeditated malice* requisite in the first class of murder defined, yet the *purpose to kill* expressed in the statute applies to each of the several classes of murder in the first degree, and this results not only from a fair grammatical construction of the language of the first section of the statute, but also from its reasonableness and consistency with the humane spirit of our laws, as well as the context of the first section with the provisions of the section and the third and thirty-seventh sections of the statute. Inasmuch as the language of the second section has undeniably made *malicious purpose* to kill essential in all murder in the second degree, it could not have been the reasonable intent of the law to punish any kind of *unintentional killing*, or killing by *misadventure*, with death. And as the third section has made *all kinds of unintentional killing*, while the slayer is in the commission of an unlawful act, manslaughter, the first section must be construed consistently therewith, and not as making exceptions, and imposing the penalty of death for acts which would fall within the plain language of the third section. And the thirty-seventh section of the statute, expressly recognizing *an intent to kill* as an element of murder by poison, cannot be reasonably reconciled to any other construction of the first section.

Judgment of the Common Pleas of Marion county reversed, and cause remanded.

Swan and Brinkerhoff, J.J., dissented to the eighth and ninth propositions, holding that killing another in the perpetration of rape, arson, robbery, or burglary, is murder in the first degree; and every evil intent necessary to constitute murder in the first degree in such case is, in law, incontrovertibly implied.

The Court also held that it was error to say to the jury that if they found defendant *guilty as charged*, they should return verdict for murder in the first degree.

If this be so, then, is it not error for a jury to say simply guilty as charged in burglary, assault with intent to kill, etc., as they include other crimes?

Under this there can be no conviction of murder in the second degree, because, as it is held above, that giving poison is evidence of *malice aforethought*, and as *an intent to kill* is necessary to make murder in the second degree, if the intent to kill is proved it is necessarily murder in the first degree.

Bartley says above, that section three covers *all kinds of unintentional killing*, etc. This can not be so, as it only covers all kinds of unintentional killing *where malice is absent*. As this is so, how can a man be convicted of manslaughter for giving poison, when the giving of poison proves malice? Can there be manslaughter with malice aforethought? Bartley would seem to hold he might be guilty of manslaughter.

Above I have annexed syllabus of decision by Supreme Court. It will be seen the 7th and 8th propositions are those upon which the sentence is reversed. Swan and Brinkerhoff dissented as to 8th and 9th but not as to 7th.

Three of the Judges hold, *a purpose to kill* necessary to constitute murder in the first degree in all cases named in section one of the crimes act, whether *forcible murder*, murder by poisoning, rape, arson, robbery, etc.

I have stated my reasons for thinking that was not the law.

But Swan and Brinkerhoff hold, that a purpose to kill is not necessary in rape, arson, robbery, and burglary, but a purpose to kill *is necessary* in case of death resulting from poisoning. They

hold, as I am told by Conklin, that *murder by poisoning*, as defined in section one of the crimes act, is so modified by Sec. 163, page 297 of Swan's Stat., that an *intent to kill* is necessary to bring it within murder, otherwise it is only a crime under Sec. 163 [or possibly manslaughter?]

I think as to this they are wrong—

1. Because Sec. 163 was passed by a different Legislature from that which passed section one of the crimes act, and the *intention* of section one is not to be gathered from Sec. 163. That is a question of construction.

2. But Swan and Brinkerhoff, I suppose, do not put it upon that ground, but upon the ground that section one has been *modified* by Sec. 163. This I think cannot be so, because,

3. Repeals by implication are not favored. The statutes may, and should, be construed together, *in pari materia*, and each can have a subject-matter to operate on.

Upon the idea of Swan and Brinkerhoff, that no intent to kill is necessary in rape, arson, etc., and that consequently no intent would be necessary in poisoning if left to the meaning of section one alone, it involves the absurdity that an *intent to kill* is necessary to constitute murder in the first degree by poisoning, but not by rape or burglary, holding that a burglary is higher crime than giving poison to kill a foetus.

Suppose Sec. 163 was now repealed, where then would poisoning stand?

Sec. 163 only applies to women pregnant with *quick* child. It does not name *poison*, and should be construed as applying to other drugs, etc., than those provided for in section one.

It would seem the overruling of the demurrer was not deemed ground of reversal because no injury resulted, and *possibly* because, under that count, the defendant might have been found guilty of manslaughter.

It would seem that it was not held error to charge the jury, that

if the proper facts were proved, that the jury could not find defendant guilty of any less crime than murder in the first degree. Sec. 39 only relates to form of verdict, does not give power to disregard the law.

It would seem to me that an intent to kill the *fætus* was a sufficient intent to kill. If a party kills *one person* while he intends to kill another, that was murder. But how in Ohio?

Perhaps it would have been well to have charged more specifically, that to constitute murder the poison must have been given in *poisonous doses*, as it may be given in less than poisonous doses.

Judge Bartley seems to hold, that the *statute* (Sec. 1) makes poison, rape, robbery, etc., evidence of *malice aforethought*, and that this is the difference from murder by poison, etc., and other murder. But the statute had no such object, for poison, rape, etc., are, *independently* of the statute, evidence of malice aforethought, and the Legislature must have intended, in section one, to have distinguished poisoning, rape, etc., by *omitting an intent to kill*, or there is no difference in the kinds of murder at all.

By the common law, killing, while the slayer was committing ANY felony, was murder without an intent to kill. The Ohio statute intended to *limit* the felonies in which *unintentional killing* should be murder in the first degree.

Malice is an unlawful design to injure. Judge Wright's *definition* is scarcely a definition at all. He took it from an English case, in which a man rode a vicious horse in a crowd of men and killed one. The Judge described the character of his acts.

The statute describes manslaughter as *without malice*. But suppose a man intends *only* to chop off another's hands, that act is malicious, and if killing ensues it must be manslaughter, or only an assault.

There is, in *Vermont*, a case of murder in the second degree by poisoning.

American and Foreign Intelligence.

A New Method of treating Disease by controlling the Circulation of the Blood in Different Parts of the Body.

Dr. John Chapman, in a recent paper (*Med. Times and Gaz.*, July 18th, 1863,) claims to "have discovered that a controlling power over the circulation of the blood in the brain, in the spinal cord, in the ganglia of the sympathetic nervous system, and through the agency of these nervous centres, also in every other organ of the body, can be exercised by means of cold and heat applied to different parts of the back." In this manner the reflex excitability, or excito-motor power of the spinal cord, and the contractile force of the arteries in all parts of the body can be immediately modified.

"In order," he says, "to lessen the excito-motor power of the spinal cord only, I apply ice in an India-rubber bag about two inches wide, along that part of the spinal column containing the part of the cord on which I wish to act. On the same principle, the vitality of the spinal cord may be increased by applying hot water and ice alternately, each in an India-rubber bag, if very energetic action be required; if less vigorous action be necessary, I apply ice, or iced water only, using it several times a day, for a short time on each occasion, with a long interval between each application.

"If it be desirable to increase the circulation in any given part of the body, this I have found myself able to effect by exerting a soothing, sedative, depressing, or paralyzing influence (according to the amount of power required) over those ganglia of the sympathetic which send vaso-motor nerves to the part intended to be acted on. This influence may be exerted by applying ice to the central part of the back, over a width of from four to four and a half inches, and extending longitudinally over the particular segments of the sympathetic and of the spinal cord on which it is desired to act.

"For example, intending to direct a fuller and more equable flow of blood to the brain, I apply ice to the back of the neck and between the scapulæ; increased circulation in and warmth of the upper extremities are induced in the same way; thoracic and abdominal viscera can be influenced in like manner by applications to the dorsal and lumbar regions; while the legs and the coldest feet ever felt can have their circulation so increased that they become thoroughly warm by an ice-bag applied to the lower part of the back.

"The bags I use are of different lengths; of the width already

named for adults, and of lesser widths, of course, for children. I have had them made both of India-rubber, and of linen with a surface of India-rubber upon it; the former are the best. The width of the bag is equal throughout, except at the opening, which is narrowed to facilitate tying, and elastic to admit easily the lumps of ice. When the bag is full, I divide it, if a long one, into three segments; this can be done by constricting it forcibly with a string; the ice of the upper part is thus prevented from descending, as the melting goes on, into the lower part of the bag. I am preparing a bag on a new principle, which will be a great improvement on those I now use; but as it is not yet complete, I abstain from describing it here. I sustain the bag in the position intended by means of ribbon or tape passed through loops at the back of it, then over the shoulders, and round the body.

"Theoretically, I feel assured that by the methods I have described physicians will be able to control the great majority of diseases; experimentally, I have already received numerous and wonderful proofs that this assurance is well founded. By thus acting, by means of cold or heat, or both, alternately or combined, on the spinal cord and ganglia of the sympathetic, I have succeeded in completely arresting the fits of many epileptics, and in curing the following maladies: Paralysis; long-continued and extreme headaches; prolonged giddiness; extreme somnolence; a feeling of want of firmness in standing and of security in walking; habitual hallucinations; loss of memory; weakness and dimness of sight; ocular spectra; inequality of the pupils; lateral anaesthesia; uncontrollable spasmodic opening and shutting of the mouth; cramps of the limbs (in two cases of the hands, incapacitating the patients to continue their work); numbness of the fingers, incapacitating the patient to pick up small objects, or to use a needle; paralysis of the bladder; incapacity to retain the urine more than a few minutes (two cases recovered to a surprising extent); profuse and too frequent menstruation; scanty and irregular menstruation; extreme menstrual pains; profuse leucorrhœa, with long-continued bearing down of the womb, and extreme pain of the back; habitual constipation; habitual diarrhoea; general coldness of the surface of the body, which has continued for many years; habitually and hitherto irremediably cold feet."

In treating paralysis originating primarily in a lesion of the spinal cord, according to the above method, Dr. C. says: "My first effort is directed to the spinal cord, which I endeavor to restore to a healthy condition by increasing or diminishing the circulation of blood in it. I effect either of these results by directly modifying its temperature. Moreover, as fibres from the ganglia of the sympathetic are distributed to the sheaths and blood-vessels of the spinal cord, it can be influenced by cold and heat not only directly, but indirectly by acting on those ganglia. The restorative power which I have been able to exert in this manner is truly surprising, and, I believe, quite unparalleled by any influence ever exerted by medicine.

"If the paralyzed limb be cold, my next object is to increase the circulation in it; this I do, as already said, by lessening the vaso-motor power of those ganglia of the sympathetic which preside over the blood-vessels of the limb in question. In this manner I find that the circulation in it can be so increased as to make it even very unpleasantly hot.

"The health of the spinal cord having been improved, and the circulation and consequent nourishment of the paralyzed limb having been adequately increased, I then, and not until then, apply galvanism to the paralyzed muscle, if this aid seems needful. When thus applied, after the cord and limb have been acted on as described, the affected muscles prove far more rapidly responsive to the galvanic stimulus than paralyzed muscles usually are, and recover their natural size and strength with proportionate rapidity. But in fact such is the health-giving influence of the process I have described, that the limb will generally recover its healthy condition without the use of galvanism at all.

"The treatment thus described has reference to those forms of paralysis originating in a lesion of the spinal cord; but I have found myself able to exert a curative influence scarcely less potent even when the paralyzing lesion is within the skull, and certainly far more so than can be exerted by any internal remedy."

"To cure epilepsy," he says: "Care must be taken, in the first place, that all sources of eccentric irritation be removed; assured of this, as far as possible I direct all my efforts to accomplish two objects—first to lessen the excito-motor power of the spinal cord by lessening the amount of blood circulating in it; and, second, to prevent those spasmodic contractions of the cerebral arteries which induce the sudden loss of consciousness constituting the first phase of an epileptic fit. To achieve these objects, I order—

"First, and most important, ice to be applied to some one part or to the whole length of the back, and from two to eighteen hours a day, according to the special character of the case under treatment.

"Secondly, if the extremities be cold, to aid them in recovering their wonted warmth during the first day or two of treatment—by frequently immersing them in hot water, and by friction, also, in winter, by clothing the arms, down to the wrists, and the legs, down to the ankles, in flannel.

"Thirdly, as auxiliaries (1) to take abundant physical exercise, and to use dumb-bells when practicable, or other special means of increasing the respiratory activity and of expanding the energy of the spinal cord; (2) so to cut or dress the hair that it shall not cover or keep warm the upper part of the back of the neck; (3) to exercise the brain daily and systematically in some healthy study, or if this be impracticable, to insure regular mental activity by means of some interesting employment; and (4) to take care that the dress along the center of the back be light and cool.

"If ice be properly applied to the back, the extremities, how-

ever cold, may be made quickly warm, so that in many cases the use of hot water may be wholly dispensed with; but in severe cases, where immediate derivation of blood to the extremities is urgently required, and more especially in winter, it is expedient to accelerate the influence of the ice applied to the sympathetic ganglia by the means just indicated."

In a subsequent paper in the same journal (Oct. 17, 1863), Dr. Chapman relates a case of hemiplegia benefitted by this mode of treatment, and claims to have benefitted by it two cases of diabetes.—*Am. Jour. Med. Sciences.*

Treatment of Diarrhœa and Dysentery. By Prof. SKODA.

Beyond every thing stands a strict regulation of the diet. When the intestinal canal is in a diseased state almost any subject introduced into the stomach acts mischievously, and it is not unfrequently necessary to suspend all food until the intestine is in a condition to bear it. Every solid article *eo ipso* is then mischievous, but even fluids, by reason of their temperature, may act as prejudicially. In most cases taking a few spoonfuls of warm soup, or drinking a mouthful of cold water will immediately be followed by severe colics, and soon afterwards by evacuations. We must only allow lukewarm soups or other drinks, and that only by a spoonful at a time. Of course, these stringent rules only apply to very obstinate diarrhœa, and especially dysentery, for there are many cases of temporary diarrhœa in which the patients continue to eat fruits and the like, and still soon get well. Such cases must, however, not be taken into account, and it is always most prudent at the commencement of a diarrhœa to cut off the supply of food as far as possible, and at all events to prohibit all articles likely to augment the affection.

Opium is the most valuable medicine in diarrhœa, for it keeps the sphincter in a state of permanent contraction, a contraction which is often propagated to the large intestine, and the small intestine is unable to propel its contents far enough to induce the irritation which causes their expulsion. When, by reason of this contraction, these contents are retained, their amount may become considerably diminished by the absorption of the fluid. Frequently, however, there is no spot of the canal which is not so diseased as to prevent such absorption taking place, and then the diarrhœa will continue in spite of the opium and of the contraction of the sphincters. It appears, moreover, that opium, besides its action on the muscular portion of the canal, exerts, by contact, a soothing effect upon the mucous membrane. In consequence of the diminution of the irritation of this membrane, its secretion is probably lessened, as are possibly those of the liver and pancreas. However this may be, opium acts very favorably in profuse secretion from the intestinal mucous membrane. From half a grain to three

grains may be given in the twenty-four hours, the best preparation being the *ext. opii aquosum*.

If opium or morphia do not suffice, it must be aided by astringent remedies, by far the best of which, and the most easily supported, is the sulphur zinci. One would have supposed that tannin in its separate state would have proved more useful than the zinc, but this is not the case, and it is much less easily borne. It acts much better and more energetically when employed as a household remedy (*e. g.*, as a decoction of sloe or wild pear tree) than in its separated form; and is then of great service in practice among the poor. Alum is of no use whatever in diarrhoea. Lead approaches zinc in efficacy, but still it is less certain than it. The dose should not be greater than a quarter of a grain, and this may be repeated every two or three hours, and at most every hour. If these means do not suffice, we must have recourse to enemata of salep or starch (with which may be combined one grain of opium or half a grain of zinc), not throwing up more than two ounces at a time. If the clyster does not cause pain in the rectum, and the disease continues obstinate, the dose of the zinc may be increased to two grains. Tannin may be added to the enema, but the zinc is far more serviceable. In the most obstinate cases we must have recourse to cauterization; but this is only the case when there is a diseased condition of the lower part of the rectum. Very obstinate cases of blennorrhœa confined to the anus may be completely cured by the application of nitrate of silver in substance as high as it can be passed. The injection of a strong solution of this substance does not usually attain the same end.—*Med. Times and Gaz.*, Sept. 12, 1863, from *Wien Allgem. Med. Zeit.*, No. 43.

Diphtheria.

Dr. J. West Walker presents (*British Med. Journ.*, May 16, 1863) some interesting views relative to this disease which are worthy of consideration. He maintains that the true *nature* of diphtheria must be very different from that hitherto received. "We can no longer," he remarks, "consider it to be an acute specific disease, having uniform general and local symptoms. The leather like formation, hitherto held to be the diagnostic sign, at once loses its significance, if it have to be viewed only in the light of a complication of nearly every ill that flesh is heir to; manifesting itself, it is true, only at certain seasons, such seasons being noted for the extensive prevalence of zymotic diseases generally." He does not deny "that, during a diphtheritic epidemic, a distinct, and, to a certain extent, new zymotic disease may possibly exist, to which the name diphtheria may, though rather inaptly, be applied; all I maintain is, that if such a disease do exist, we have no positive symptom by which to recognize it; and that, as far as

its general symptoms go, they only represent a condition of blood-poison analogous to, though possibly increased in severity over, diseases already known—presenting differences of degree more than of kind; and that the so-called local pathognomonic formation associated, as it is found to be, with an endless variety of general symptoms, can no longer be employed as a diagnostic sign."

"If, then," he adds, "a variety of general diseases, alike only in having the common diphtheritic complication, are any longer to be considered as one distinct disease to be called diphtheria, the sooner, for all practical purposes, the name be done away with the better, for it cannot but mislead. It conveys not the slightest notion of the true nature of the affection (or affections); and it renders utterly nugatory all attempts to reduce either diagnosis, prognosis, the question of contagion, or the method of treatment, to a scientific basis. Far better would it be to employ the word in all and every case generally, no matter what the general symptoms may be, wherein the pathognomonic sign presents itself, only reducing it to the rank of a qualifying adjective. We should then speak of cases as diphtheritic, whatever the general symptoms showed the patient to be at the time laboring under. We should be induced to study more closely such coexisting malady, and not being led away by a name, be more likely to form a correct idea of any particular case."

The *theory* of the nature of diphtheria, to be induced from the foregoing facts and observations, may be briefly stated in the following conclusions, viz. :

1. The characteristic formation is but an external complication, and has no specific relation to any particular state of system.
2. The general symptoms with which this formation is found to be associated are most various; ranging from the most trifling *malaise* to the most virulent septicæmia, and extending through the whole class of acute specific diseases.
3. Possibly, during the prevalence of a diphtheritic epidemic, there may be a distinct general disease, altogether different from other known diseases; but we have no positive evidence on the subject.
4. Diphtheria, in the sense in which the word has hitherto been employed, is to be looked upon not as one disease, but rather as many diseases alike only in being associated with the common characteristic formation.—*Amer. Jour. Med. Sciences.*

Senile Dementia.—At the end of an elaborate memoir on senile dementia and its difference from general paralysis of the insane, M. Marcé, of the Bicêtre, gives the following conclusions : 1. Senile dementia does not constitute a distinct morbid state. It is an *ensemble* of symptoms connected with various organic affections of the brain, and especially with apoplexy and softening. 2. It con-

sists of two orders of symptoms; some affecting motor power, which is more or less abolished; others affecting the intellect, of which the principal lesion is gradual weakening, to which are superadded, as accidents, isolated delirious ideas, or maniacal or melancholic delirium. 3. The disturbances of the motor function are always explained by the existence of organic lesions in the course or at the origin of the motor fibres; while to the impairment of the intellect correspond atrophy of the cerebral convolutions, fatty infiltration and more or less complete obliteration of the capillaries, and atheromatous degeneration of the nerve-cells and tubes. 4. While it offers numerous points of contact with general paralysis, senile dementia may be distinguished from it, in the majority of cases, by clinical signs. In a pathological point of view, both these diseases offer, as a common terminal result, atrophy and fatty degeneration of the nerve-tubes and cells. But, in general paralysis, this atrophy is consecutive to a plastic exudation which, poured out around the capillaries, produces adhesion of the pia mater to the cortical substance, diminishes the calibre of the vessels which it compresses, and thereby presents an obstacle to the circulation of the blood. In senile dementia, on the other hand, the obliteration is a consequence of atheromatous deposits, which are spontaneously produced as a result of advanced age and of a diminution of the assimilative power in the capillaries. These two states, then, differ widely in their nature; one is, if not inflammatory, at least exudative in its origin; the other is an arrest of nutrition.—*Brit. Med. Journ.*, Sept. 19, 1863, from *Gazette Médicale de Paris*, 1 August, 1863.

Treatment of Delirium Tremens.

Surgeon Wm. Hanbury, in an interesting article (*Madras Quarterly Journal*, July, 1863), on the treatment of Delirium Tremens, states that "during the last few years, the cases which have come under my observation have been successfully treated by the use of stimulants (brandy and porter) in limited quantities, and concentrated nourishment during the first two or three days of the affection, followed at the end of that time by the exhibition of opium in anodyne doses at night. The small amount of that medicine, when thus administered, which generally sufficed to induce curative sleep, seemed to suggest that its use could be dispensed with, and that the disease might be left—so far as this medicine was concerned—to the efforts of nature alone, and accordingly an opportunity was taken advantage of to test by experience how far the supposition would prove correct.

"An old and very dissipated soldier, who had been previously treated in the way just indicated, suffered from delirium tremens twice subsequently, and on each of these occasions the characteristic symptoms subsided under the use of stimulants and nutritious

food, chiefly beef-tea and egg-flip. Somewhat later a sergeant, much addicted to drink, was admitted with dysentery, aggravated, if not caused by this military vice. At the end of two days the symptoms of delirium tremens became developed, and the cure was trusted to nature alone, aided by nutrients and stimulants, and again with a favorable result.

"A short time after the occurrence of the last case, I was consulted regarding the condition of a man, of very drunken habits, effected by the disease and who had taken several large doses of opium prescribed in the usual manner. He was delirious and in imminent danger of sinking. The face was collapsed and bedewed with a cold sweat, the pulse was small, rapid, and feeble, and the hands tremulous; and as some cases of cholera were under treatment in the hospital at the time, the impression suggested itself that he had already reached the collapsed stage of that disease. A little consideration, however, of the attending circumstances of the case, left no room to doubt that the prostration was due to the unfavorable action of the opium exhibited, and I recommended that its further use should be discontinued, and that brandy and porter, with nutritious diet, should be had recourse to. The effect of this change of treatment was very remarkable, and well calculated to make a deep impression. The pulse rallied, the skin became warm, active diaphoresis succeeded to passive serous exudation. A tranquil manner and calm expression of countenance were substituted for nervous tremor and low delirium; and in about 30 hours after the opium was omitted, he fell into a quiet sleep and awoke, cured, at the end of ten hours.

"The injurious influence of opium, and the sufficiency of the expectant or non '*therapeutic*' treatment to effect a cure, were well demonstrated in this case, and I have been informed by the gentleman who had to do with it, that the treatment 'without opium,' was also successful in two instances which have since come under his notice.

"But though examples may thus be adduced to prove that opium can be dispensed with, it may well be supposed, in the absence of more numerous facts bearing upon the subject, that the position of a medical man who adopts an expectant treatment must, for the present, of necessity, be a more or less anxious one."

To illustrate the various and uncertain action of opium in the disease Mr. Hanbury gives an account of three different attacks in the same individual, and remarks that in the first the "remedy had no unfavorable effect when given in a single dose after the symptoms had continued three days, though it is by no means certain that the sleep which occurred at the end of fifteen hours, was due to the action of the opium. In the second, the moderate use of the medicine brought the disease, as usually happens, to a favorable termination. In the third, it utterly failed.

"And in now reviewing the facts, I have no doubt that the injurious influence of opium must be referred to the too early exhibi-

tion of the medicine, for we have seen that it was prescribed to allay irritability of the stomach two days before symptoms of delirium tremens had appeared at all; and it is by no means certain if its use had been further pressed, that the result might not have proved unfavorable. Again, with regard to the stimulants employed, it seems important to note, and especially for the benefit of those who consider them an essential part of the treatment, that although on the last occasion they were administered from the period of admission, yet the disease showed itself two days subsequently. It would appear indeed that the views of Dr. Pirrie and others, who hold the strange mental aberrations and nervous excitement characteristic of the affection, to be the result of toxæmia affecting chiefly the brain substance, are correct. At first sight, no doubt, it might seem that the access of the disease is the direct effect of the withdrawal of the accustomed stimulus, since it so often shows itself in hospitals, as elsewhere, two or three days after a debauch or course of dissipation; but it must be acknowledged the sequence of events in these instances admits of a different explanation, and resting apparently on physiological grounds. The facts themselves are, moreover, at variance with such a conclusion, for we know that the symptoms often immediately supervene on a state of drunkenness; and Dr. Laycock has shown that the disease may be brought to a successful issue without the use either of opium or stimulants, though the latter would obviously be necessary if the abstinence theory of its etiology were tenable.

"On the whole, then, the result of late inquiry and discussion must be assumed to be a more intimate knowledge of the real nature of the disease. There can no longer exist a doubt that the use of opium at an early period of the affection is not only contraindicated, but that nutrients and rest are more nearly concerned with its successful treatment, than the stimulants with which these remedies have been usually associated. Nor shall we be likely to fall into much error in the event of stimulants being considered necessary in any particular case, if we administer them under the guidance of those general principles which are recognized in the management of other diseases.

"Lastly, with respect to digitalis. It will have been noticed that it acted in the case last detailed, to use a common expression, like a charm, though exhibited at a very critical period of the disease; and were this its invariable effect, the treatment of the affection would doubtless be greatly reduced in simplicity, and many anxieties attending it would be removed. But instances of its unfavorable action have been cited, and it still remains to be shown what are the conditions under which it may be had recourse to with least risk of failure.

"I believe it has hitherto proved most useful when not exhibited at too early a stage of the disease, and it may probably be found, as with opium, that large doses from the first invasion of the symptoms are less safe and effectual than smaller ones given at a

later date, and after some time has been allowed for the natural evolution of the disease. Moreover, if it be true as Dr. H. Jones suggests, that digitalis exerts a tonic influence on the heart and increases the contractile force of that organ, so far from being inadmissible in the low state of nervous agitation with muttering delirium verging on coma observed in extreme cases, it should here prove especially applicable. Experience, however, must alone determine this point; but in the meantime, and before resorting to the use of digitalis, it will be considered no more than judicious to adopt means calculated to restore the powers of nature, of a kind somewhat similar to those referred to in the case which has called forth these observations."—*Amer. Jour. Med Sciences.*

On the Relation of the Circulation in the Liver to the Formation of Bile.

In order to prevent the circulation of arterial blood in the liver, M. Schiff found that in dogs and cats it was necessary to ligature all the branches of the cœliac axis, also the inferior diaphragmatic artery. After occlusion of these vessels, the secretion of bile still continues and in quantity. In several cats, Schiff tied the portal vein previous to its entering the liver. The animals did not live beyond one hour and a half, and died quietly. Not a drop of bile was found in the gall-bladder, which had been previously emptied. The abdominal viscera, and especially the spleen, were congested. The experiment was repeated on rabbits with a similar result. As experementum crucis, the following is interesting. The operation of exposing the vessels was performed on a cat, but the ligature was not tightened. The animal behaved as a healthy cat ought, bile dropping freely from an artificial opening in the gall-bladder. After one hour and a half, the ligature was tightened, and twelve minutes after the animal lay on the floor as if stunned. Death occurred in fifty-five minutes. Not a drop of bile flowed after tightening of the ligature.

The second part of Schiff's researches refer to the consequences of *gradual* obliteration of the portal vein, as it has been observed in man in pathological cases, and in Oré's experiments, to have been closed without disturbance of the biliary secretion. Schiff does not doubt the correctness of Oré's experiments, but has repeated them with the view of ascertaining whether the obliterated portal circulation was not maintained in some other way. In dogs and cats Schiff continued for nearly six days gradually to tighten a ligature of the portal vein. After the final tightening, the animals died. On post-mortem examination, it was found that three groups of dilated veins communicated with the portal vein above the point of ligature, *i. e.*, with the portion connected with the liver. (1.) Small veins coming off from the veins supplying the gall-ducks and the ligaments of the liver, and in dogs these were in

connection with the veins of the stomach. (2.) A part of the veins of the gall-bladder and its ducts. (3.) A vein arising from the venous trunk formed by the crural and epigastric veins, and which receives branches from the floor of the urinary bladder, and, higher up, some from the subcutaneous abdominal veins, from the peritoneum running on the inner surface of the linea alba, empties itself into the portal vein. Schiff terms this important, though in the normal state very inconsiderable vein, the *vena parumbilicalis*. Bertrandi has seen in the cat communications with the splenic veins. Burrows has described them in a human fetus, and Sap pey found these communications dilated in cases of cirrhosis of the liver, and viewed them as an outlet for portal blood in disturbance of the portal circulation within the liver. Schiff regards them as of importance in the obliteration of the portal trunk, by giving admission of blood to the liver.

Schiff, therefore, does not see in the results of Oré's experiments, nor in pathological cases, any obstacle to the view that the portal vein furnishes material for the biliary secretion. In cases of congenital abnormal distribution of the portal vein, Schiff supposes that there is some compensation made by other veins, and he thinks it probable that what Kiernan, in Abernethy's case, described as a "navel vein," was the dilated *vena parumbilicalis*. Schiff does not, however, attach any chemical importance to the blood of the portal vein, since it has been seen that in pathological cases, as well as in experiments, the blood of the general venous circulation will suffice. He does not even consider the arterial blood as unsuitable, only it is supplied by the hepatic artery in too sparing a quantity; but, if the artery were dilated, it might compensate for obliteration of the portal vessel. It is rather, however, the province in which the blood must travel which forms the moment of chief importance, and it is in that of the portal veins that the bile is secreted. Schiff tried to prove directly that arterial blood brought into the circuit of the portal vein would maintain the secretion of bile. In three cats, he introduced the current of blood from the renal artery into the portal vein. In one of these experiments, in which the arterial blood circulated for a quarter of an hour without coagulation, Schiff believes that seventeen centigrammes of clear bile found in the gall-bladder, which had been previously emptied, were secreted during the circulation of arterial blood.—*Ed. Med. Jour.*, Oct. 1863, from *Henle u. Meissner's Bericht.*

Amygdalotomy.—M. DERROUBAIX cannot agree with Begin, that that this is the simplest operation in surgery, for even with instruments which render it of so much easier performance than heretofore, it still sometimes presents difficulties and danger when certain precautions are neglected. It is of importance to bear in mind that the tonsil is not an exactly defined organ, like a more perfect gland, but has a tendency to become confounded by a kind

of transition with the glandular systems of portions of the neighbouring mucous membranes. In the normal condition, it makes but a slight projection between the pillars of the velum; but in the case of pathological change, the two tonsils may touch each other—respiration, phonation, and deglutition becoming impeded. It is generally in predisposed subjects, as the result of repeated irritation, especially that arising from the action of cold and damp that an indurated exudation into the follicles, and a sufficiently hypertrophied condition to call for the intervention of surgery, are observed. It is rare, indeed, when the affection has reached this stage, that any local treatment will spare the necessity of an operation; and the author has frequently in vain had recourse to the whole train of remedies, during a prolonged period, without obtaining any diminution in the engorgement or alleviation in the symptoms. It is far better in such cases to employ the appropriate treatment, without teasing the patient by these indifferent measures. In reply to the question whether the removal of the tonsils does not give rise to serious inconvenience, it may be said that to attempt their total ablation would be to risk the perforation of the wall of the pharynx and a lesion of the carotid. In fact, a little more only than the portion which projects beyond the level of the pillars is excised; and this is done without any inconvenience, for all the follicles being independent of each other, the same consequences are not to be feared which would result in the case of a more complicated gland, the different portions of which have mutual relations with each other. Almost always, too, the cure effected is permanent; and it is only in very rare cases that the engorgement is, after some years, reproduced. If, however, by reason of faulty instruments, a mere superficial slice of the tonsil or a portion of its upper or middle part be removed, relapse will follow without much delay. It is highly important to observe, that while at the upper part the pillars of the velum oppose a continual barrier to the tonsils, nothing arrests their development below; so that their chief volume, when enlarged, lies often in this direction. But as this region is not displayed when the mouth is opened and the tongue only moderately depressed, the portion of the tonsil which is then made visible is alone removed; and a part of the diseased tissue below remaining untouched, a relapse is certain to occur. It is from having at an earlier period met with these relapses, due to incomplete operations, that M. Deroubaix turned his attention to the improvements of the instruments employed in tonsillotomy. He rejects the bistoury as not only difficult, but even dangerous in its employment. In fact, he has witnessed a case in which the carotid was fatally perforated. The amygdalotomes formerly in use all erred in consequence of the plate for the reception of the tonsil having its large diameter continuous with the axis of the instrument, while the tonsil is developed in the vertical, and therefore contrary direction. M. Deroubaix first contrived an instrument having its plate placed perpendicularly; but finding it difficult to introduce this low enough in the pharynx

to embrace all the diseased tonsil, he so changed the disposition that the plate of the instrument is not perpendicular to the handle but oblique, forming with it an open obtuse angle. This easily embraces the whole of the surface to be removed. The operation can be executed with celerity and certainty. It should never be resorted to during the inflammatory stage; for not only is it then very painful and liable to consecutive accidents, but the tissue of the gland is not firm enough to resist the traction. Although tonsillotomy is usually of easy execution, great difficulty is sometimes produced by the terror or indocility of the patient. This is often only to be overcome by prolonged waiting and watching for the opportunity which the patient, by opening his mouth, at last gives of seizing the tonsil with promptitude. Sometimes a patient who has submitted to the removal of one tonsil, obstinately refuses to allow of the second being removed. Such a case is best met by having two tonsillotomes ready. Immediately that the first tonsil has been excised, almost before the patient is aware of it, the second instrument may be applied. When the conformation of the mouth renders the isthmus difficult of access, it is preferable to depress the tongue by means of the amygdalotome itself, than to employ any special instrument for depressing it, which only complicates the operation. M. Deroubaix has never met with hemorrhage after this operation that could not be controlled by a simple vinegar gargle.—*B. and F. Med.-Chir. Rev.*, Oct. 1863, from *Presse Med. Belge*, Nos. 31, 38.

Inequality in the Length of the Limbs.—Inequality in the development of the limbs, arising from certain occupations, has hitherto been most generally noticed as it affects the upper compared with the lower limbs, as in bakers and dancers; but it also occurs between similar limbs, especially the arms, in cases where one of these limbs is actively employed, while the other remains in a more or less complete state of inaction. This inequality Dr. DUPARCQUE observes, affects the length as well as the volume of the arms, and arises from two sources, viz: the predominant development of the exercised limb; and a kind of arrest of development in that which is condemned to inactivity. In some cases, as in jewelers, cutlers, and smiths, the right arm is lengthened, while the size of the left arm is increased in painters on porcelain. This abnormal development can only occur in subjects who have followed their occupations from an early age—before puberty or at its commencement, when the body is not yet fully developed. This inequality between similar and parallel limbs is regarded by Dr. Duparcque as of some surgical importance. The neglect or ignorance of its occurrence may produce mischievous results in diagnosis, in prognosis, and in operative procedures in those cases of injury, such as dislocation in fracture, in which an alteration

in length from an important feature. As a general rule, Dr. Du-parque says, in all cases of injury of the upper limbs from direct or indirect violence, capable of producing fracture or dislocation, the occupation of the patient, and its influence on the development of the limbs, should be inquired into.—*Brit. Med. Journ.*, Ap. 25, 1863, from *Gaz. des Hop.*, 7 March, 1863.

Bichromate of Potassa as a Poison.—One of the most important papers on toxicology published within the last few years is by MM. A. Chevalier and Dr. Becourt, on bichromate of potassa. The report of these investigators, though not official, is of great public, not less than scientific interest. It conveys to us a series of new facts in regard to a particular poisonous salt, and it proves that the effects of this poison tell upon certain branches of industry, producing wholesale mischief.

By an accident, one of the reporters met with a man who was engaged in a manufactory of chromate of potassia, and who was suffering from a peculiar ulceration of the face; from this case they obtained an idea that the manufacture was attended with serious mischiefs, but they failed to obtain from the man any very satisfactory evidence.

At last, from the director of a manufactory at Graville, they obtained a series of facts from which they learned that the workers were subjected to disease. In transforming the neutral chromate of potassa by means of acid into bichromate, the vapour arising carries with it an infinity of pulverized molecules of the product, which spread through the workshop. The cloud of particles is easily visible in a ray of sunlight. The molecules, inspired in abundance, give to the palate a bitter and very disagreeable taste; but as profuse salivation is the result, the chromate is thrown off in the saliva, and has not time to inflict any permanent injury. If, however, the respiration be made by the nose, the molecules are dissolved in the layer of secretion which lies on the membrane of the septum of the nose, creating a violent pricking, suffusion of tears, and irresistible sneezing. In time the membrane begins to be thrown off, and portions of it are carried into the handkerchief, used in blowing the nose; this process goes on, when once started, so rapidly that after a period of six or eight days the septum becomes thin, permeated with openings, and is ultimately detached altogether. At this point, all the symptoms that have been described cease, and the workmen scarcely notice the loss of the nasal partition.

The reporters state that this process of ulceration of the septum of the nose occurs in every workman, except in those who take snuff. In these, owing to the layer of powdered tobacco which covers the membrane, and the frequent use of the handkerchief, the evil is removed, or rather prevented.

On the skin in its normal state, the epidermis being intact, the bichromate exerts no baneful influence; the hand may in fact be plunged into a concentrated and hot solution of the salt, without fear; the hand may also remain covered with the salt for an entire day, without any observed effect; but if the skin is torn or abraded, however triflingly—by the prick of a pin, for example—a sharp pain is felt on the exposure; and if the salt be left in contact with the wound, the caustic character of the salt is brought out intensely, the cutaneous tissue is decomposed, and violent inflammation is established. These symptoms are accompanied with intense pain, especially in winter, when the cold is severe; the action of the salt does not cease until the cauterization has penetrated to the bone.

When a workman is clean and careful, he prevents these accidents; but if he is careless, and allows the bichromate, either in powder or solution, to touch abraded parts or sores, or wounded surfaces, he must immediately use remedial measures, or suffer a severe penalty. In some cases, where the workmen are too lightly clad, they are attacked with violent itchings, followed by suppuration and ulceration of the moist surface of the penis, around the glans. This condition may progress until a disorder not unlike syphilitic ulceration may be presented.

The effects of the bichromate are shown on inferior animals as well as man. Horses employed in the manufactory, and which walk over the salt, are attacked in the feet; the hoof falls off, the inflammation extends to the upper part of the leg, causing the hair to fall off, even to complete denudation. From a series of facts related to the reporters by M. Clouet, a manufacturer at Havre, some important particulars are supplied. A horse employed in carrying the bichromate was attacked in one of his hind feet. The wound became so painful as to necessitate absolute rest; the master of the horse not understanding the treatment, the suppuration went on, extending through the limbs, the skin of two legs fell off, and an enormous suppurated surface invaded the almost entire half of the body of the animal. Death occurred a month after the commencement of the malady. The writer remarks that it is as though, when the decomposition had commenced, it went on indefinitely; there is a veritable metamorphosis of the cutaneous tissues and of the flesh altogether, analogous to fermentative action.

Dogs and cats are also subject to similar accidents from the bichromate. These animals, from walking amongst the refuse of the manufactory, are frequently affected; the skin of their feet becomes laid bare, and suppuration follows. In one instance, a rat, killed in a manufactory, was found to have all his feet suppurating, and partially destroyed, as if gnawed.

M. Clouet—to whom, as we have said, the report is much indebted—supplied also to the authors certain facts relating to the internal exhibition of the bichromate of potassa. He says that in a small dose, a few centigrammes, it acts as a purgative; if in

larger doses, say of one gramme, it acts as a poison. In larger doses, it produces colic and purging, but no vomiting. In one manufactory, certain of the workmen placed some bichromate of potassa in a barrel of cider, as a joke. The cider was rendered of a dark colour; but, notwithstanding, other of the workmen drank the cider, and were all affected with severe colic and diarrhoea.

In a second account sent to the reporters by M. Clouet, the facts of his previous statements were confirmed, and certain further details were offered, which are of interest. Thus it was shown that both sexes were equally influenced, and at all ages; and that the affection of the septum of the nostril usually made its appearance within a week after exposure. The disease of the septum was very easily brought about in those workmen who, having stained their fingers with the chromate, put them into the nostril. M. Clouet also observed in every case, that in those men in whom the septum was entirely removed, nasal catarrh was unknown.

In respect to treatment, various observations have been carried out. As a preventive of the nasal disease, the use of snuff seems very effectual. In some cases the workmen apply a wet sponge before the nostrils when they are exposed to the vapor; and the plan seems to be advantageous. When the skin is abraded, and the chromate has produced ulceration, it is the best treatment to wash thoroughly with a feeble alkaline water; then, if inflammatory action follows, to poultice, and afterwards to apply freely sub-acetate of lead in solution.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1863, from *Annales d'Hygiène Publique*, July, 1863.

Poisoning by Cyanide of Potassium. Dangers to Photographers.

—Dr. Davanne directs attention to the dangers to which those who are engaged in the art of photography are exposed. They use constantly, he says, two of the most active poisons—namely, cyanide of potassium and bichloride of mercury. Their hands are constantly in contact with strong solutions of these poisons; and often, in spite of repeated warnings, they run absurd risks. The author gives an account of a case in which a gentleman, who had stained his hand with nitrate of silver, endeavored to remove the stain by rubbing over it cyanide of potassium freely. In the act, he slid under the nail of one of his fingers a small portion of the cyanide salt. At first he did not notice this, but in a little time he felt a sharp pain in the part, followed, after a few minutes, by an intense vertigo, so that all objects appeared to be moving around him. To relieve him promptly, he conceived the unfortunate idea of employing vinegar; the cyanide was quickly decomposed, and hydrocyanic acid was produced absolutely. The vertigo now increased accompanied by shiverings, pallor of the face, loss of sight, and great exhaustion. The power of speech was lost, but the intelligence was preserved. The extremities were cold, and as the

sight returned there was double vision. The symptoms did not pass away for ten hours.

The treatment adopted consisted of cold and friction on the spinal column, inhalation of ammonia vapor, and the administration of strong infusion of black coffee.—*Ibid.*, from *Canstatt's Jahresb.*, 1862.

Rectification of Face Presentation under Chloroform.—Mr. W. S. Carmichael read before the Obstetrical Society of Edinburgh (April 29, 1863), the following communication: I attended Mrs. — with her first child. On examination, the membranes were found entire, and the presentation not easily to be recognized. I suspected either face or breech. The labor was tedious. I left the patient for some time, and on my return found the membranes ruptured, and the face presenting. Mrs. —'s general configuration, and examination *per vaginam*, by which I had found the pelvis narrow, with a hard projecting coccyx, led me to infer a tedious labor, dangerous at least to the child, if not to the mother. I therefore put her deeply under the influence of chloroform, and finding that I could without difficulty push the head above the brim of the pelvis, I was enabled to rectify the presentation. The labor thereafter was very tedious (in all 36 hours), so much so, that I had sent for the forceps; but, after waiting some time longer, delivery was accomplished naturally. The nose and both eyes clearly showed the presentation of the face. The urine required to be drawn off for a week, showing the great pressure exercised on the urethra, principally from the projection of the coccyx pressing the head against it. I think the case instructive, as showing that, by the use of chloroform, *administered deeply*, a presentation, rendering labor always tedious, and therefore dangerous to the mother, and of increased danger to the child, may by such means be safely rectified.

Professor Simpson remarked, that Dr. Carmichael's communication was a very important one. Rectification of face presentations had been the subject of a good deal of discussion at various times. We were taught by some authorities that face presentations could be readily converted, within the pelvic cavity, into head presentations, but it had subsequently been thought impossible as a general rule to do this, the mass turned (viz., the head of the child) being larger in one of its diameters than the pelvic cavity in which it was proposed to turn it. There were rare cases where nature had rectified the position. Dr. S. saw one such case some time ago, with Dr. Paterson of Leith. He (Dr. S.) remembered of once rectifying the position of the head, with Dr. Beilby, before the days of chloroform, when it would have been impossible to have finished the labor before changing the presentation. In that case the head was not descended into the pelvic cavity. Usually, for the reason stated, it is impossible to turn the head in the cavity of the pelvis;

you must first push it up to the brim before this can be done.—*Ed. Med. Journ.*, Sept. 1863.

New Cause of Unavoidable Hemorrhage.—Dr. Bryce, of Dalkeith, made the following communication to the Obstetrical Society of Edinburgh (June 10, 1863): “On the 4th of June, 1858, M. D. was delivered of her first child—a healthy, well developed boy—at the full term of utero-gestation, but did not again become pregnant till the first week of January, 1862. On the 11th of June following—that is, about the fifth month and a half—abortion took place; and, after delivery, it was found that the predisposing cause of the accident had been fatty degeneration of the placenta. Her husband was from home from the above date till the 2d of August of the same year, on which date he returned for two or three days, when she again became pregnant. On both of these two last occasions, she states that she never felt so well as during her first pregnancy. At six o’clock P.M. on the 11th of last January, almost to a day the time of her former premature labor, I was again summoned to see her, when she stated that she first began to complain at four o’clock the same morning. On examination, I found the os considerably dilated, and a large bag of thick membranes presenting, and through them I could with difficulty trace the outlines of a foot. The pains had almost entirely ceased for an hour or two; and as there was no hemorrhage (and had been none), I thought it advisable to delay interference for a short time. After allowing what I considered to be sufficient time, without any signs of improvement, I ruptured the membranes, and in a few minutes the uterus again took on action, the pains recurred regularly, and with every uterine contraction hemorrhage, which entirely ceased during the intervals. A careful examination convincing me that no portion of the placenta was attached to the cervix, and being unwilling to interfere so long as the hemorrhage, though considerable, was not alarming, and so long as I was in total ignorance of the cause of the bleeding, I tried what effect the plug might have in arresting the flow of blood. The pains soon increasing in strength, the descent of the foetus partially expelled the plug, which I then removed altogether. I examined again, and could now reach the pelvis, where I found the cord, which I was now able to trace, passing downward from its umbilical origin, over the perineum, and up the back to its placental attachment, and rendered so tense by the descent of the foetus, that I concluded that it was preternaturally short. The child was thus ascertained to be astride the cord.

“ Seeing now that the forcible separation of the placenta produced by the traction on the cord, in the descent of the foetus during each pain, was the cause of this unavoidable hemorrhage, I proceeded during an interval to rectify this abnormal position of the child; and this I with some difficulty succeeded in doing, by flex-

ing the right thigh on the abdomen, and passing the cord over it. The hemorrhage was thus completely arrested, and, with a few more pains, the foetus was expelled at seven P.M., followed, after the lapse of ten minutes, by a fatty battledore placenta. An over-active attendant had the placenta destroyed before I could get the cord accurately measured; but, from a rough guess, I think the total length of the cord would be about eight inches.

"In consequence of special circumstances, such as seldom come under our notice, and one of which has been already mentioned, the time of impregnation can in both cases be fixed almost to a day; in the first case, to the 2d or 3d of January, 1862, and, in the second case, to the 2d or 3d of August; and in both instances the abortion took place almost exactly at the same period of utero-gestation, or about the eighth or ninth day of the sixth month."—*Ed. Med. Journ.*, Oct. 1863.

Diphtheritic Affection of the Mucous Membrane of the Uterus after Delivery—Different Local Complications in Puerperal Fever.

—Dr. Alex. R. Simpson showed to the Edinburgh Obstetrical Society (May 13, 1863) a preparation of a uterus which had been sent him by his friend Dr. Yellowlees, senior assistant in the Morningside Asylum. The patient from whom the preparation had been obtained had been sent into the Asylum as a case of puerperal insanity; but her disease showed itself to be a form of puerperal fever, under which she succumbed a day or two after her admission. At the post-mortem examination, the organs had for the most part been found healthy, but the uterus presented on its inner surface a number of diphtheritic patches, which were very marked at the site of the placenta, especially at points where there were some small placental masses remaining attached to the uterus. Different local complications, as they were all aware, were liable to occur in different epidemics of puerperal fever, or even at different periods of the same epidemic. In Berlin, five years ago, he (Dr. A. R. S.) had had an opportunity of witnessing the post-mortem examination of a great many patients who died of puerperal fever during a lengthened epidemic, and of noticing how a series of them presented morbid appearances which were mainly confined to the peritoneum; and then for a time the cases would nearly all show no peritonitis, but affections of the vascular system, perhaps with secondary deposits in the lungs or other organs; whilst a third set would present chiefly morbid changes in the lymphatics and cellular tissue beside the uterus. In other rarer cases, again, no morbid change was discovered until the uterus was cut into, when, as in the case before them, a series of dingy-gray sloughy patches were seen on the inner surface of the organ; although this form of puerperal affection was sometimes found associated with some of the other local complications. In cases where the interior of the uterus had become the seat of such diphtheritic deposits, any

lacerations of the vaginal canal that might have occurred during labor were usually found to present the same gangrenous appearance.—*Ed. Med. Journ.*, Oct. 1863.

Treatment of Carbuncle.

Mr. Augustin Pritchard, in his address on Surgery at the last annual meeting of the British Medical Association at Bristol, presented some interesting practical remarks on this subject, and strongly urged the superiority of caustic to incisions.

“ When we consider,” he says, “ that nearly *sixteen hundred* deaths occurred [in England] in nine years, and that they amounted to three hundred in one single year, and that the vast majority of these were adult men but little beyond the prime of life, and that if the disease had been early and properly treated most of them might have been saved, we must admit that the subject is one of high importance, and not unworthy of the consideration of our Society, made up as it is of practical and busy men. To say that with an altered plan of treatment none would die, would be to borrow the words of the quacks and advertising doctors, real or pretended ; and with them I have no desire to be classed.

“ It seems to be accepted by all who have written on the subject, that when the carbuncle has once formed, it cannot be cured without giving exit to a slough or core ; and the indications are, therefore, to stop the progress of the complaint, and to expedite the separation of the dead tissue. In a work on surgery, called *Several Chirurgical Treatises*, published in 1676, by Richard Wiseman, Sergeant-Chirurgeon to King Charles II., to whose most sacred majesty he dedicated his ‘Chirurgical Labors,’ the author says that too much bleeding is to be avoided, that incision may be made, and this is the particular treatment which he recommends ; but he adds that some surgeons advise caustics, or the actual cautery.

“ Another writer of the seventeenth century, Lazarus Riviera, who published a series of surgical cases, strongly recommended caustics.

“ For the last fifty years the approved treatment has been by what is called the crucial incision, which is to be made boldly and freely through all the indurated tissues, across from one edge of the red circumfezence to the other, and again at right angles, so as to free the slough and destroy the inflammation ; and it must be allowed, that, in the great majority of cases, this plan has been successful. Other means have, from time to time, been recommended, and some very recently, viz : no incision, but poultices, or iodine (Dr. Rigby, *Med. Times and Gazette*, vol. ii., 1858) ; or turpentine (Theilman, Berlin, *Med. Times and Gazette*, Sept. 29, 1855) ; or belladonna (Mr. Cooke, *Med. Times and Gazette*, Sept. 29, 1855) ; or white paint, or a cupping-glass, or watery extract of opium (Mr. Shillitoe, *Med. Times and Gazette*, vol. i., 1858) ; or

opium plaster (*Gutzeit, Dublin Hospital Gazette*, April 1, 1859); or subcutaneous incisions (Mr. French, *British Med. Journal*, vol. ii., 1862, p. 52); or lead plaster (Mr. Hunt, *Association Med. Journal*, July, 1853); or acid nitrate of mercury (Mr. Startin); or some other novelty, none of which have, I believe, survived the period of their first publication in the journals.

"The caustic plan has been revived, and with the sanction of well-known surgical names. Dr. Physick, of Philadelphia, seems to have been the first to bring it once more prominently before the profession; and in May, 1857, the present Mr. B. Travers published (*Lancet*, vol. i., 1857) two or three very interesting and convincing papers on the subject, and it was then that my attention was first drawn to the caustic treatment, before which time I had invariably marked a deep cross on the carbuncles, as my neighbors did. In November, 1856, Mr. Higginbottom published (*Lancet*, vol. ii., 1856) a short but very comprehensive article, recommending a plan very similar to that which I am about to advocate. Mr. Syme, on the other side of the question, says, in his ordinary very distinct mode of expression, 'the application of caustic is the extreme of absurdity.'

"I must, at this point, proclaim myself an unflinching advocate of the caustic plan of treatment in a slightly modified form, and a strenuous opponent of the crucial incision. The caustic to be preferred is the stick of potassa fusa, and it is to be used freely but carefully in the following way. In whatever stage the carbuncle is, the potash is to be applied and rubbed in freely in the centre, until an eschar is fully formed. In the earlier stages, if the skin is still unbroken, it must be used for several minutes, until the death of the central portion is insured, and the size of the slough to be made varies of course according to the size of the carbuncle. In general terms, the diameter of the skin to be destroyed should be a fourth, or even a third, of the diameter of the indurated or inflamed mass. This is generally sufficient to stop the progress of the disease; but it is far better, at the same time, to use some application of an opposite nature to the circumference, and for this purpose the nitrate of silver in substance, or in strong solution of two scruples to an ounce, may be used, according to Mr. Higginbottom's plan, or, as I prefer it, a strong solution of iodine in collodion, which has a very excellent effect in destroying the erysipelatous element of the disease. I believe that my father was the first to use a strong tincture of iodine for erysipelas of the head and face; and the *pigmentum iordinii* of the Bristol Royal Infirmary, made by the solution of forty grains of iodine in an ounce of rectified spirit, has now come into general use in such cases.

"We have lately added to our *Pharmacopœia* here a '*Pigmentum iordinii c. collodio*', made with a scruple each of iodine and iodide of potassium to the ounce of collodion, and with very favorable results, for erysipelas, whether idiopathic or following surgical operations; with the exception that, if used on the face, the eye-

lids must be left intact, for it causes so much contraction of the surface, that there is danger lest the patient should not be able to shut his eyes afterward, and this accident I have seen before now.

" Mr. Higginbottom, in his paper quoted above, speaks most truly of the nitrate of silver as a preservative, and the potash as a destructive agent, and seems to have found, as I have, that this fact is not sufficiently recognized or appreciated. The contraction of the collodion film acts very beneficially on the capillaries of the skin, and the particular effect of the iodine is more continued, because of the mechanical adhesion of the collodion to the surface. With this pigment the indurated part is to be painted daily, without waiting for the first layer to come away, and the relief from it after the use of the potash is very marked. Poultices are to be avoided altogether. A dressing of the resin ointment, mixed with an additional quantity of turpentine or some camphorated spirits, is to be used daily over the surface, and in most cases no change need be made until the patient is cured.

" The other points in the treatment are the greatest attention to cleanliness in the dressings, and the removal of the discharges, which are easily insured by warm bathing and cotton wool; and the strictest care is necessary not to interfere with the slough by any dragging or cutting, so as to cause an effusion of blood.

" To a carbuncle which has begun to slough by the central apertures, the caustic is to be applied in the same way, and the effect is to turn the sloughing skin into a gelatinous black mass, which melts away and is gradually removed with the dressings, the iodized collodion pigment being applied around the circumference as before. By this plan of treatment the slough certainly separates earlier than by the incision, and comes away in a half dissolved state; and the disease being checked at the margin, contraction of the entire sore goes on from the granulating process within, frequently for many days before the more solid part of the eschar has been quite thrown off from the living tissues.

" The chief advantages which we claim for this plan of treatment, as contrasted with the incision, are two in number, viz: firstly, and principally, the safety of the patient; and, secondly, the rapidity of the cure.

" 1. *The patient's safety*; the proofs of which we may conveniently examine under the same heads as those used before in describing the perils of the disease, or the causes of mortality. The risk of hemorrhage, from which some patients die, is altogether done away with. At the time of the application of the caustic, when the skin is beginning to slough, a few drops of blood escape sometimes, but they are at once dissolved by the caustic, and this is the only blood shed in the progress of the case; and, if the potash is applied still earlier in the treatment, not one drop is lost, and this is no slight advantage.

" Exhaustion, as a cause of death, is rendered much less probable, partly because no blood is lost, but principally because we

imitate and support nature's effort by making an artificial slough, of comparatively small size, and the suppuration is only what is required for the separation of the dead skin and cellular membrane, the further secretion being very much lessened by the early loosening of the slough and the application of the iodine paint.

"Thirdly, I believe that pyæmia or purulent infection, the most frequent cause of death and the most hopeless complication, will not occur by this method of treating the disease.

"I have already stated my conviction that pus finds its way into the open mouths of the divided vessels, and thus the system is contaminated. A cut through the hard, brawny tissues must leave many vessels held open mechanically, in the midst of the suppurating and sloughing membranes, in the state of all others best adapted to cause the entrance of the poison.

"The only two fatal cases of carbuncle which I have been ever called to, were of this nature. Both were clergymen, middle-aged, well nourished, and in fair health at first; and in both the treatment had been by incision. In one the sloughing process had never been completed; in the other the wound had even healed, and become firm, and the patient sank from numerous extensive formations of pus in the joints and cellular membrane, in various parts of the body.

"A medical friend of very large experience in India, where the natives, soldiers, and others, were always under his care, and where carbuncle is a very common disease, informed me some years ago that he had long given up the incision because of the mortality from pyæmia, and that his treatment has been much more successful since.

"Seiche treated eleven patients in the ordinary way with incision, and six died; five of them from pyæmia. He treated twelve with collodion, and all recovered.*

"The risk of death by the extension of the inflammation to the deeper and more important structures of the body, or by tetanus, is nearly the same whatever plan of treatment is adopted; but these dangers are not great, because of the extreme rareness of these accidental complications. Whatever difference there is, must be in favor of the caustic method, because the slough is more speedily loosened.

"2. *The Rapidity of the Cure.*—The second advantage which I claim for the caustic, viz: shortening of the time required for the cure, although not equal in importance to the safety of the patient's life, is nevertheless no slight one. It is not quite so easily capable of absolute proof; but I have as little doubt about it as about the others.

"The explanation of the case is sufficiently easy. Important time is saved at first, because the slough is formed more quickly

* Year-Book of Medicine and Surgery, 1862, page 165. The mortality was excessive according to this statement: six dying out of twenty-three. The mere application of collodion seems an inefficient remedy.

A cut will let free the tissues, and check the inflammation and the progress of the disease at the circumference ; but whether the skin has sloughed already or not, the central part will, in almost every instance, die, and have to come away ; and the special chemical effect of strong caustic alkali upon the tissues of the part, in whatever state they may be, whether living or dead, saves the patient's time in another way. As I have before noticed, the potash is a powerful solvent of the tissues : pus, blood, and the gelatine of the skin and the fat, are liquefied and dissolved by it, if used in the concentrated form of potassa fusa ; and the slough already formed and the skin which is about to give way become semifluid, and are washed away with the secretion ; the solid elements remaining being the white and yellow fibre of the skin and areolar tissue, with pus, coagulated lymph, and some of the cellular membrane and fat which the caustic has not been able to reach.

" It is important to remember that the action of the remedy upon the part to which it is applied, is chemical entirely ; and that the good effect upon the rest of the disease is from the early formation of a slough which is easily broken down in its substance.

" The resulting sore is undoubtedly much smaller by this treatment. After incision, the quadrants of skin partly slough, and are partly retracted, so that ultimately the sore is circular, with a diameter of the length of the cuts ; whereas by the potash and iodine plan the centre gives way, and all the rest of the skin retains its vitality and its former position ; and even though the edges appear at first to be undermined, by the time the slough has come away the greater part is generally filled up by granulations ; and, as I have before said, contraction of the whole sore has commenced.

" To complete my remarks, I must shortly allude to the general treatment. The indiscriminate use of stimulating food and drink is to be avoided. Some gentle aperients are required at first ; and afterwards the medicine best suited for the majority of cases, is a mixture of ten grains of chlorate of potash with ten minims of the tincture of the sesquichloride of iron. Food in a nutritious and fluid form is required, and occasionally wine or beer, if the discharge is very free, and the pulse seems to require it ; and if there is much weakness with sweating, quinine and acid, and perhaps an opiate at night.

" Mr. Higginbottom, whose name deserves all honor, for he is a stanch and honest opponent of the vices of the alcoholic treatment, makes the remarkable and very satisfactory statement that he has never prescribed alcohol in any form for this malady, and that he never saw a fatal case.

" The question of pain will arise, and may with some be an element in the determination as to the plan of treatment ; but it has no weight at all compared with the question of the patient's safety. When a large surface is touched with the caustic freely, there is sometimes much pain ; but in those cases a long incision would be necessary, and patients dread the caustic much less than the knife ;

and I have used the freezing mixture of pounded ice and salt, applied for five minutes to the surface, with the effect of almost destroying the feeling without interfering with the chemical action of the alkali. The advantage in this respect is all in favor of the caustic; and the freedom from pain which the patient experiences, as soon as the first burning has passed, is very marked.

"I have introduced no accounts of cases, although I have treated many in each way; for their usual progress may be satisfactorily described in general terms.

"In conclusion: Although the plan is not new, and although it has been urged, as I have before said, by higher names than my own, and although its advantages are so striking and intelligible, it is very clear that the idea has not taken root effectually, as it ought to have done; and no opportunity could offer itself more likely to bring it prominently before the profession, than that which I now take of making it the subject of the surgical address before this assembly."—*British Med. Journal*, Aug. 8, 1863.

Effects of Emerald Green on Paper-Stainers.—The commissioners appointed to inquire into the health of children in manufactories have published some valuable remarks on the effects of arsenical preparations on the paper-stainers. The commissioners state that the coloring matter consists sometimes of emerald green, in greater or less proportions; and when it does so, it becomes, under certain circumstances, a source of danger. The evidence of Dr. Letheby on this subject is particularly deserving of notice, as showing not only the danger to the workpeople, but to persons whose rooms are hung with these arsenical papers, and to those who wear artificial flowers similarly colored. Dr. Letheby relates a fatal case of a child who was thus poisoned from playing in a room in a gentleman's house which was covered with this green paper. He also states, as showing the amount of arsenical matter, that he has found about a grain of pigment for every square inch of the green leaves of these flowers; adding, "I have seen a wreath with enough arsenic in it to poison twenty people."

The commissioners add—The emerald green is dangerous in this trade.

1st. If it is badly manufactured. Mr. Cook states, "Our emerald green is peculiar. It comes from one particular place in London. It is much finer and softer to the touch—less granular, that is—than the ordinary Scheele's green, of which this is a specimen. It does occasionally vary in quality; but as a general rule, if ever we have to get some from any where else, our men know by the strong smell directly they open the cask that it 'won't work,' as they say—that is, that it will be loose and fly;" and Mr. Cook adds that brushing emerald greens by a machine, "if it were at all loose, must be very bad."

Mr. Smith, of Messrs. Heywoods', states that "the arsenic green is better than it used to be;" and other witnesses also are of the same opinion, that if it is well manufactured "no bad effects arise from it." It is the cheapest kind that is the most injurious. "The commoner the color—the cheaper, that is—the worse for use. It is not properly prepared; the arsenic is not killed in it."

2d. If it is imperfectly mixed with the size. It appears that this is more likely to be the case with machine-made paper than in block-printing, inasmuch as the color for block-printing is more "set with size," being worked "almost in a jelly;" whereas "the cylinder in the machine must have a more or less liquid color, or it would not revolve; and so there cannot be enough size to bind in the one as in the other."

3d. If it is worked at continuously, especially with machine-made paper; the friction in rolling it up when dry, or in brushing it, causes the dust to come off.

4th. If cleanliness be not observed. J. Nail says: "The emerald green is worse, but cleanly persons are not affected by it. The boys, many of them, will not wash; but eat their meals with dirty hands, covered with paint and mess. I have seen them eat their dinner with hands smothered in lead."

That these sources of danger, being well known in the trade, are watched, and, to a considerable extent, guarded against, is shown, not only from the above evidence, but from the facts related by several witnesses connected with the large works in the North; where the printing is chiefly by machinery, and where, consequently, the greatest danger arises from the emerald green. J. Boden, at Messrs. Heywoods' works, states that he "has never known any permanent injury from working the emerald green."

The case of a boy at Messrs. Potter's who is said to have died from the effects of emerald green, G. Aspden, is exceptional; and is, indeed, attributed by two of the witnesses, partly to detaching the chalk dust, partly to "the long hours and close confinement."

—*Brit. and For. Med.-Chir. Rev.*, Oct. 1863, from *Report of Children's Employment Commission, Government Paper*, 1863.

Spotted Fever.—Dr. E. W. Jenks states (*Buffalo Med. and Surg. Journ.*, Oct. 1863), that this disease prevailed quite extensively during the past winter and spring in La Grange Co. and other portions of Northern Indiana.

The most striking characteristics of the disease, as observed by him, were the suddenness of attack, and in fatal cases, the sudden termination. "Most of the patients were attacked with a chill, following which would be the sudden occurrence of headache, mostly in posterior region of the head, with severe spinal pain, sometimes extending to the limbs. Soreness of the flesh of all parts of the body was complained of in almost every instance, so as to elicit tokens of suffering whenever the patient was moved,

even in those cases where there appeared to be almost complete stupor. In the majority of cases the head was drawn back, and no proper amount of force could bring the chin to the breast. Immediately following these symptoms, and in some cases simultaneous with them, was the characteristic eruption, which was of a dark purple color, non-elevated, and not receding upon pressure; there would also be some lighter colored spots, making a gradation of color from the dark ecchymoid spots, to those of a light red. There was no uniformity in the size of these spots, some were not larger than a pin's point, while some were one-half to three-fourths of an inch in diameter. In one case I saw, in addition to the spots I have described, several large elevated spots, of the size of a twenty-five cent piece, of very dark color, presenting outside of the dark color a blistered appearance. Dr. Fletcher, of Lima, Indiana, informed me that in several instances he observed these elevated blistered spots.

"There was sometimes vomiting in the commencement of the attack with an abhorrence of food. I neither observed or heard of any case of diarrhoea or abdominal tenderness; in every case there was obstinate constipation. The febrile symptoms varied, in the sudden fatal cases none followed the chill, but the pulse was feeble and the skin cold. In none of the cases was there a strong, full pulse, and the heat of the surface was less in all cases than is usually observed in acute diseases. Dr. George Fletcher, of Lima, Ind., with whom I saw some cases of this disease, and to whom I am indebted for an account of some of his observations, says that in one case which recovered, the patient lost permanently the use of one eye, there being complete amaurosis. In another case there was strabismus and curvature of the spine, which continued at last accounts, several months after. In one fatal case I saw, there was swelling of the cervical and sub-maxillary glands. There was not complete delirium in any case, the tendency was more to stupor than delirium; the patients could usually be aroused so as to give intelligent answers to questions; in all fatal cases the patients died comatose.

"In one case only was I permitted a post-mortem examination. The patient, a girl aged 13, went to bed at night apparently well; getting up in the night to obtain a drink of water she suddenly lost the use of her limbs. Her parents not hearing her return to bed, got up and found her on the floor; she said she could not walk, and complained of cold, headache, and soreness of limbs. I saw her the next morning; she was lying with her head thrown back, the surface of the body was cold, and covered with the characteristic symptoms; the pulse was slow and feeble, the pupils were dilated, the bowels were neither distended or tender. She was in a state of stupor, yet when aroused would complain of severe pain in head, back and limbs. The next day there were more febrile symptoms, yet at no time as manifest as is usual in acute diseases. In this case only did I see any glandular swellings about the neck.

She remained in about the same condition until the third day, and then died comatose. Autopsy was made twelve hours after death. The brain was found very much congested, the veins being distended to their utmost capacity; there was a small amount of serum effused at the base of the brain, and there appeared to be a slightly softened condition of the upper portion of the spinal cord. The left cavities of the heart were entirely empty, while those of the right side were filled with very dark colored blood, with small amount of coagula. The dependent portions of the lungs only were congested, otherwise they had a healthy appearance. I regret that I was not allowed time to examine the abdominal viscera.

"Without giving the details of treatment in any of the cases of 'spotted fever,' I would merely say that the treatment most successful, was upon the sustaining plan, viz., brandy, quinine, beef tea, and tinct. ferri mur.

"The mortality of spotted fever was very great; in the majority of fatal cases they were speedily fatal; the commencement of the attack was the time to be watchful; those patients that lived several days were quite apt to recover, although recovery was very slow."

Toxicological Experiments with Turpentine.—A series of experiments have been conducted by Dr. L. W. Liersch, to determine the effects of turpentine on animals. Rectified turpentine was placed in a wooden chamber, and after the vapor was freely diffused through the chamber, the animals were placed in it, so much air being admitted that a light placed in the chamber would burn quietly and strongly. The following are the conclusions drawn by the experimentalist: Air, when charged strongly with turpentine vapour, was injurious to all the animals subjected to it. The symptoms excited were uneasiness, dimness, tottering, reeling, want of power in the extremities, especially the hinder ones; convulsions, partial or general; difficult respiration, and great rapidity in the action of the heart. Death was produced not merely by asphyxia, but by paralysis of the nervous system. In two animals, a cat and a rabbit, death followed in the course of half an hour; while other animals, exposed to the same vapor in the chamber, recovered on being brought into the air. At the post-mortem, conducted within an hour after death of the two animals, the bodies were rigid, the vessels of the brain were found full of dark fluid blood. In the cat, the pupils were enormously dilated; in the rabbit, shortly before death, they were much contracted. The lungs were of a deep red colour, with ecchymosed spots; the right side of the heart was relaxed, and filled with fluid blood, which in the rabbit was dark; the left breast was contracted and empty. The kidneys, liver, and spleen were full of blood; the bladder was distended, but no violet smell was perceptible in the urine. The

author infers from these experiments that turpentine vapor is not so dangerous to inhale as has generally been supposed, and that it is not necessary as a matter of police, to exclude turpentine varnish from the arts.—*Clarus in Schmidt's Jahrbücher*, Band cxvii. No. 1, 1863.

[The experiments made by Dr. Liersch confirm an observation made by a correspondent of the *Lancet*, two years ago, to the effect that turpentine administered rapidly and freely by the lungs produces results almost identical with the vapor of chloroform. Some researches of our own confirm this view. We must, nevertheless be cautious in accepting the statement that the inhalation for many hours daily of the vapor arising from turpentine varnish is not ultimately injurious to health. We have direct evidence that so inhaled it produces giddiness, deficient appetite, and extreme anæmia, and that the system never bears it with tolerance.—B. W. R.]—*B. and F. Med.-Chir. Rev.*, April, 1863.

Poisoning Properties of Thallium.—M. Lamy, announced to the French Academy of Sciences, his discovery of the deleterious properties of this metal. Having experienced certain pains, especially in his lower limbs, while pursuing his studies on thallium, he was induced to attribute them to a noxious influence of the metal; and in order to ascertain whether such was the fact, he dissolved five grammes of sulphate of thallium in milk and offered it to two puppies, each about two months old. But after tasting the liquid they left it, and could not be induced to take any more. On the following day the milk, which had been left in the yard, had disappeared, and it soon turned out that it had been partaken of by a dog, two hens, and six ducks; for a few hours after ingestion the dog became sad and refused to eat. During the night it was seized with violent gripes, which caused it to utter piercing cries. Its features had undergone a change; its back was bent up through the effect of pain, the seat of which was evidently in the intestines. Its hind legs, after a continuance of convulsive motions, became paralyzed, and it died sixty-four hours after taking the poison. On the day before its death a hen and six ducks died, and in those which were watched in time, the paralysis of the legs was remarked. The two puppies which had scarcely touched the milk had meanwhile shown symptoms of fatigue; by degrees they were seized with convulsive trembling, and could hardly stand; then came the acute pains which ended in death, although every precaution had been taken, apparently in good time, to save their lives. All these animals being subjected to dissection, there could not be found the slightest corrosion or even inflammation of any consequence; only the gall-bladder of the dog was found considerably distended, and in some of the ducks various serous membranes, that of the liver

especially, had assumed a whitish and granular appearance. As to the nature of the poison, if there could have been any doubt about it, it would have been at once dispelled by the characteristic green band peculiar to thallium in the spectral analysis of the organs of the dead animals. Eight days later another hen was taken ill. Its wings hung down, it could hardly walk, and when it wanted to peck its food, its neck seemed to have lost the power of bending down sufficiently, so that its beak did not reach the food. The hen was killed, and thallium found in the intestines, but in a very small dose indeed, and the other organs did not contain any. M. Lamy next administered a *decigramme* (a grain and a half,) of the sulphate to a dog two months old, and it died forty hours after taking it. Hence M. Lamy infers that sulphate of thallium is a powerful poison, producing pain in the intestines and paralysis of the lower members. This poison and the nitrate have but little taste, and might therefore be used for criminal purposes; but fortunately there is not a poison that can be traced with more certainty through spectral analysis than this. This new method of analysis bids fair to render excellent service in cases relating to forensic medicine.—*British Med. Journ.*, Sept. 26, 1863.

Improved Methods of Treatment in Deformities. By E. ANDREWS, A.M., M.D., Professor of Surgery in Chicago Medical College.

In previous articles I have figured and described several pieces of apparatus, which I use for the cure of spinal curvatures. There are numerous other appliances which are valuable adjuvants to the main treatment, among the most important of which is what the German surgeons call the "stretch-bed." This machine consists of a couch with various appliances at the head and foot for making extension and counter-extension upon the spinal column; by means of which, like a string put under tension, the curves of the spinal column are drawn gradually straight. The first successes obtained by this invention produced quite a furor in its favor in Europe; and its popularity was such as to occasion the satire, that "many seemed to imagine that nothing more was necessary to constitute an orthopedic surgeon than a stretch-bed and patients."

The extending power in this machine consists of springs or weights and pulleys, applied both at the head and the foot of the bed, the weights being preferable. The upper extensors were applied to the head, in case of high curvature, and to the shoulders when the difficulty was lower down. The lower extension was applied to the bulge of the hips or to the feet. The patient was not usually required to remain continuously in the machine, but was placed in it, at intervals, from two to four times a day; but

the more time he could spend in it, without injurious loss of exercise, the more rapid was his improvement.

Although the extravagant admiration at first felt for the stretch-bed has greatly subsided, it still remains as a very valuable instrument, which no one undertaking the treatment of spinal curvatures can afford to do without. It may be specially and elaborately constructed for hospital purposes, or be extemporized out of an ordinary bedstead in private practice. For hospital purposes, the bedstead may be made of wood or iron. It should be not less than eight feet in length, by three and a-half in breadth. The great length is required to make space above the head, and below the feet for elastic straps and other extending appliances. There should be no head nor foot board, but instead of them a long roller of wood, three inches in diameter, extending from post to post, across the head and foot of the machine, and turning easily on iron axles. Above each roller should be a strong crossbar of wood, into which iron pulleys may be set in various positions, as the surgeon may, from time to time, desire. The mattress should be of curled hair, rather hard, and made level and smooth. Pillows and bolsters can be varied according to the necessities of the case.

For temporary use, in private practice, a stretch-bed may be improvised out of the ordinary bedstead, by cutting openings through the head and foot boards, and setting in some small cast-iron or brass pulleys, such as may be found in any hardware store.

If the deformity is in the upper portion of the spine, an extension is attached to the head, by means of a firm leather band, moulded to the occiput, and provided with two branch straps, one to cross the forehead, and the other to pass under the point of the chin. This must be very carefully constructed, or else it will be too irksome to be borne, but when well fitted, it is borne without pain. A short band passes upward from each side of the head, and attaches to a cord which is passed over the pulley and supports a weight. The counter-extension is made by a cord and weight at the foot of the bed, in a similar manner, and may be attached to the patient either by adhesive straps applied to the legs, or by a strong waist buckled around the bulge of the hips. The weights should vary from five pounds upward, according to the ability of the patient to tolerate it. If this apparatus is properly constructed and applied, the patient will enjoy free motion both of upper and lower extremities, and can turn on his back, his face, or either side, without interfering with the extension, or rising from the bed. No effort should be made to keep the patient continually on the stretch-bed, except in cases where he is unable to sit or walk. He should resort to the bed from two to four times a day, and remain from half an hour to an hour and a-half each time. The remainder of the time he should either wear a proper supporter—such as I have described in a former article—or be occupied by gymnastic exercises calculated to correct the deformity. Some patients will be able to sleep in the stretch-bed after a little

practice. In these cases they should by all means do so, as it adds the whole of the sleeping hours to the treatment, and very much hastens the recovery. If the deformity is below the sixth dorsal vertebra, the upper extension should be applied to the armpits and chest by proper pads in the axilla, and by broad adhesive straps upon the back and chest, attached to the extending cord. When properly used, the stretch-bed exerts a very powerful influence in unfolding spinal curvatures, and the worse the deformity the more striking are its results. One of the most prominent symptoms of improvement is the surprising increase of stature which the patient exhibits as the spinal column comes out to a correct line.

GYMNASISTICS.

The cure of some forms of curvature of the spine, and of all ankylosed joints, is greatly promoted, and may be entirely accomplished, by proper specific exercises, either active or passive. It is almost impossible to introduce this part of the treatment fully into general practice, on account of the amount of time required to be spent with the patient, either by the surgeon, or by a trained assistant, but parts of it will be found useful to every practitioner. The exercises are active and passive, the former being executed by the patient's own muscles, and the latter by the hand of the surgeon. Thus, for instance, if the patient has a slight double lateral curvature, and he be directed to elevate the shoulder on the side of the concavity of the upper curve (usually the left,) and depress the opposite one, and to curve the spine in the direction opposite the deformity, the practitioner at the same time guiding and assisting the motion with the hands, it will be found that the spine is momentarily restored to its normal shape. If she now repeat these motions with the same assistance many times, until fatigued, every day, the muscles which are thus trained will acquire a prodigious development, and their antagonists remaining undeveloped, they gain the mastery, and by their own superior tension ultimately correct the deformity. The bones and ligaments yield slowly to the pressure, until their shapes are perfectly restored. This is the principle of Ling's Swedish "Movement Cure," which, in a debased and spoiled form, is now hawked about the country, by sundry quacks. Some additional exercises are performed in most cases. Thus a cushioned post is prepared, and set firmly in the floor, across the top of which the patient is made to lean, and by repeated efforts of the surgeon, is made many times in succession to flex the curved spine, in the direction opposite that of the deformity.

Ankylosed joints are treated by constantly repeated exercises, both active and passive, until by degrees the fibrous bands are elongated, and mobility established. A vast number of other exercises have been devised by various orthopedists, some of which are useful and some not, but the principles involved are the same throughout.

STATE OF ORTHOPEDIC SURGERY IN EUROPE.

Dr. Ling, of Stockholm, was one of the earliest lights in orthopedics. His system of treatment consisted mainly in the series of gymnastic exercises alluded to above. He gave a strong impetus to the treatment of deformities: and his institute was under the patronage of the government for forty years. Sundry rags and tatters of his ideas, under the name of the "Swedish Movement Cure," constitute the stock in trade of numerous American quacks.

Wildberger, of the Orthopedic Institute in Bamberg, mostly discards Ling's gymnastics as useless, because they are very unsuccessful in spinal diseases. This is, in a great measure, true, Ling's exercises being better adapted to diseases of the extremities than of the spine. Wildberger, on the contrary, gives most of his attention to spinal deformities, and treats them mainly by a variety of splints and supporters, which slowly and steadily force the curvatures back to a straight line. His apparatus is thorough and efficient in its action, and has the merit of allowing the patient to walk about and exercise while it is worn; but most of it is complex and clumsy in structure, being in striking contrast, in that respect, with American instruments.

Dr. Melicher, of Vienna, has an orthopedic institute, in which he does, or at least did, a few years ago, rely almost exclusively upon Ling's gymnastics.

Dr. Berend, of Berlin, has an establishment in which he treats his patients by tenotomy, or other surgical operation, when required, and by the stretch bed and other machinery, after which he completes the cures by gymnastics alone.

Dr. Schreber, of the Leipsic Orthopedic Institute, treats his patients upon a stretch-bed, of which the extending force is produced by steel springs. The bed is also provided with lateral steel springs, to press in the convexities of the curved spines. His institute is but little patronized.

Dr. Kjelstadt, of Norway, has complex system something like the following: He first places his patient upon a stretch-bed, during certain hours. Then taking him up, he places him in a peculiar machine, in which he marches him with short steps around the room. Then laying him down, he kneads the joints and muscles with his fists, and then returns him to the stretch bed again. He is said to possess very little adaptive power, treating all kinds of cases alike.

Dr. Roth, of London, has an institute, in which he follows Ling's method, combined with the Russian bath,—that is a bath having a series of sudden alternations between hot and cold water.

Dr. Nitzsche, of Dresden, takes complete possession of his patients, occupying their whole time with curative measures, making extensive use of gymnastics and electricity. Spinal curvatures go through the following course: In the morning, he first washes the patient's back with cold water; then laying him on his face, he rubs him down with alcohol, and proceeds to knead and press the back in a systematic manner. He then practices

the sufferer on motions to straighten the spine by the action of his own muscles. Next comes a series of exercises in which the spine is stretched between rollers, and the patient is made to swing by his hands, head, &c., &c. All this is the morning lesson. In the afternoon it is repeated, and the evening is occupied with gymnastics; after which his patients are said to sleep well. If they are not cured it certainly is not for want of diligence.

Dr. Klepsch, of the Breslau Institute, uses stretch-beds, electricity, and a variety of instruments for club-feet, and other deformities.

Dr. Knorr, of Munich, takes substantially the same course, adding to it, however, a system of gymnastics and of water cure.

Dr. Parrow, of the Orthopedic Institute in Bonn, has a kind of chair constructed for straightening the spine. He also makes use of a great variety of apparatus, among which are pulleys, springs, and sundry handles pendent from the ceiling, upon which the patient practices swinging by one or both hands, as the case requires.

Drs. Ebener & Grossman, of Stutgard, regard instruments as indispensable, employing stretch-beds, corsets supporters, &c., and adding also active and passive gymnastics.

Prof. Werner, of the Gymnastic Academy of Dessau, employs corsets, supporters, stretch-beds, and baths, together with active gymnastics, but condemns the passive gymnastics as useless. In this, however, he is certainly in error, as the passive movements are very often the only ones which are possible at the commencement of the treatment.

STATE OF ORTHOPEDIC SURGERY IN THE UNITED STATES

In this country, the cure of deformities is an almost completely neglected art. A few good men are zealously cultivating it in the larger Eastern cities; but in the West, it has only just began to receive attention. For this reason, the whole country is filled with neglected spinal curvatures, bent knees, uncured club-feet, and ankylosed elbows. Many of these cases are perfectly curable, even when of many years' standing, and should be at once taken in hand. The cases of spinal deformity are especially to be commiserated, because they are usually taught to look upon their state as hopeless; whereas, a large portion of them are capable of being restored to soundness and perfect form. It is the hope of the writer, that these articles may arouse the attention of our surgeons to their duty; and prevent these cases from being turned over to the maltreatment of lying, itinerant quacks.—*Chicago Med. Exam.*

The Therapeutic Properties of Bromide of Ammonium. By IRA HATCH, M.D., of Chicago.

The *London Lancet* for April, 1863, contains a notice of the bromide of ammonium.

Dr. GIBB recommends it highly in nervous affections, in diseases of the mucous membranes, and in epilepsy.

It will be recollect that in a communication to this Society, a few months ago, I expressed the opinion that remedies would yet be found that would act far more effectively as sedatives upon the mucous surfaces, than any hitherto known to the profession. If Dr. GIBB's statement with regard to the bromide of ammonium may be relied on, or if it should be confirmed by further experience, a very important discovery, looking to this end, has already been attained. He says, that "the mucous membrane of the whole body is brought more or less under its control. Trembling, nervousness, and general uneasiness quickly subside under its use. It calms irritation, and allays nervous irritability."

Soon after this account of the bromide fell under my eye, I had some cases which I thought would test the value of the medicine.

One was a case of chronic liver complaint, of long standing, complicated with a diseased condition of the mucous membranes. The patient had had fits of indigestion, vomiting of bile, a sallow skin, and irregularity of the bowels for a long time. She had had chronic bronchial asthma for at least twenty years. She had been subject, from a child, (she is now over forty years old) to distressing turns of sick headache, with vomiting, fainting, and palpitation of the heart. During these paroxysms of headache, the dyspnœa, dizziness, blindness, and numbness were really alarming. Succeeding one of these paroxysms, she had hemiplegia, which lasted several weeks, but finally wore off under the use of counter-irritants to the spine, and the internal use of nux vomica. But it left her nervous, restless, and constantly apprehensive of another attack.

She is a married woman, but has never borne children. The catamenia have always been defective; menstruation sometimes irregular, and at other times painful or altogether wanting.

In order to allay nervous irritation, I gave her bromide of ammonium, in two grain doses, four times a-day. It promptly relieved the nervous irritation, and produced a calm quiet. She was inclined to sleep more than usual.

At present she is taking no medicine regularly. Her health is better apparently than it has been for several years. When she feels particularly nervous, she takes a dose of the bromide, which is not often necessary. I do not anticipate any very lasting benefit. There is too much organic disease to expect it. But the experiment shows the sedative properties of the remedy.

The fungous granulations of the throat and back part of the tongue have very much diminished in size and improved in appearance. But this may not have anything to do with the bromide. I may add here, that she has been greatly benefitted by the ext. nux vomica and quinine and iron, to which I mainly attribute the present improved condition of her health.

Another case in which I have used the brom. amm. was a woman thirty-nine years old, fifteen years married, but had never borne children. She is of a nervo sanguineous temperament, the latter temperament largely prevailing.

A considerable portion of the time since puberty she has been the victim of dysmenorrhœa and leucorrhœa, with occasional turns of dyspepsia. The bowels have generally been constipated. She never has been anaëmic or emaciated; but her countenance has generally been indicative of health.

Last fall she became pregnant. In March, the seventh month of her pregnancy, she took hooping-cough, which ultimately produced uterine hemorrhage, followed by pains; and she was delivered of a still born child on the 3d of April last.

The labor, as well might be expected, was tedious and painful. The os uteri was somewhat rigid and excessively sensitive. The pains, though light, distressed her exceedingly. Her recovery was slow and tedious.

She lost her strength and appetite, and became very nervous. She had fits of swooning, evidently of a hysterical character. She laughed and cried in the same breath. She would not be left alone in her room for a moment. Yet there did not seem to be any adequate cause for such nervousness. There was no fever; no tenderness of the abdomen; lochia slight; and no leucorrhœa. Pulse, respiration, and skin natural.

The bowels were constipated, and every evacuation prostrated her wonderfully, and aggravated all her nervous symptoms. No hemorrhoids discoverable. At this time, with no other view than to allay nervous irritability, I prescribed

R.—Bromide Amm.....	3ij
Syr Prun. Virg.....	3iv.

Dose, one teaspoonful every six hours.

The effect was most gratifying. A moderate leucorrhœa immediately made its appearance.

She rested well the first night and ever afterwards. She had no more fainting fits or palpitation. Her recovery, from this time, was steady, uniform, and complete. In June, she went East, where she spent the summer; and I saw no more of her till ten days ago, when I was called to visit her for another complaint.

After her sickness, which was temporary, had subsided, I investigated the old complaint, and found that she had menstruated freely, without pain, and had experienced none of her old troubles, with the exception of a slight leucorrhœa, which, on inspection by the speculum, was found to issue from the neck of the uterus, and was thick, tenacious, and transparent.

She told me in the presence of a homœopathic lady, that she had a remedy in the bromide of ammonium that would control the pain and nervousness which had tormented her so long, and for which she had never before found any relief, except by opium; and that destroyed her appetite, and generally made her sick for a week afterwards. She is an intelligent lady, and I think her testimony is worth something. She is one of the kind, too, who never have had much faith in medicines, being homœopathically inclined.

The medicine seemed to act, as a direct sedative, upon the mu-

cous membrane of the cervix uteri, much in the same manner as cleavers act upon an irritated urethra, or as buchu acts upon the bladder. It allayed the local irritation, and the constitutional symptoms disappeared.

The patient had been tormented for years with painful menstruation and uterine leucorrhœa. The primary difficulty was located in the neck of the uterus. Dr. Tyler Smith says (what we all know to be true), that the mucous membrane of the upper portion of the neck is sometimes remarkably sensitive, and is nearly as intimately connected with the mental emotions as the lachrymal gland.

This accounts for leucorrhœa from mental excitement. The hysteria, palpitation of the heart, and other nervous symptoms of our patient were the result of the excessive irritability of the upper portion of the neck or inner sphincter, usually called the os internum. In nervous, irritable women, rendered so by uterine troubles, is not the point of irritation situated in this portion of the cervix uteri? This portion is highly organized, and is always sensitive, even in the healthy woman; made so, undoubtedly, to guard the sacred inclosure within.

A highly organized, sensitive part becomes doubly so whenever the action of such part becomes diseased. The os internum sometimes becomes very irritable in pregnancy; causing obstinate vomiting, and other distressing nervous symptoms. It would seem, sometimes, as if this part of the neck were the centre of nervous sympathy in the female. Not only the stomach but the uterus itself and the ovaries are powerfully influenced by any disturbance of this part. It is well known that a very slight but continued artificial irritation of the os internum will cause abortion. Nothing more is needed than to pass through it a smooth elastic tube, and let it remain till pains come on. In amenorrhœa, depending upon certain local causes, the tube is a sovereign remedy. In vicarious menstruation this course is certain to restore the natural menstrual flow.

Some years ago, I saw a striking exemplification of this truth, in a lady long afflicted with vicarious menstruation. Each menstrual period was preceded by the most distressing symptoms of congestion of the lungs, followed by a true catamenial secretion from the lungs (unless prevented by treatment). The patient had been many times copiously bled, and subjected to a variety of treatment. She was pale, thin, nervous, and hysterical; thus verifying the assertion of Dr. Preech, of Paris, that "in all cases of vicarious menstruation which had been carefully observed, antecedents either of hysteria, or of an exaggerated sensibility, have been noticed."

In this condition, she put herself under the care of Dr. Kibbee, of Springfield, Mass. He treated the case by introducing the tube every month; anticipating the menstrual period, generally, a day or two.

She always menstruated, per *vias naturales*, within forty-eight hours after the introduction of the tube. She eventually recovered, and is now well and hearty.

I introduce this case to show the effect of irritation of the os internum, when produced artificially. Does not menorrhagia sometimes arise from irritation, owing to a morbid condition of the os internum? Do not abortions often arise from the same cause? Does not dysmenorrhœa almost always arise from an excessive sensitiveness, and consequent spasmody contractility of the os internum, which is in fact a sphincter? Do not puerperal convulsions, especially those of a hysterical character, sometimes arise from the same cause?

Judging from the effect produced by artificial irritation of the os internum, we may infer that like effects would ensue from a morbid condition or irritation of this part. Any remedy that will allay irritation in this centre of sympathy in the female, would be of inestimable value. I do not pretend to say, that bromide of ammonium will do it. It requires further trial. I think it applicable in all cases of nervous females, where the nervousness arises from uterine irritation. It may extend to all irritations of mucous surfaces.—*Chicago Medical Examiner.*

Bibliographical Notices and Reviews.

A Practical Treatise on Fractures and Dislocations. By FRANK HASTINGS HAMILTON, A.B., A.M., M.D.; Lieut.-Colonel; Medical Inspector U. S. A.; Prof. Military Surgery and Hygiene, and of Fractures and Dislocations, in Bellevue Hospital Medical College; one of the Surgeons to Bellevue Hospital Med. College; Prof. of Military Surgery, etc., in Long Island College Hospital, Brooklyn; Author of a Treatise on Military Surgery. Second edition, Revised and Improved. Illustrated with Two Hundred and Eighty-five Wood-cuts. Philadelphia: Blanchard & Lea, 1863. pp. 752.

This work has been on our table for several months. We deferred noticing it in the hope that we should be able to find time to make a pretty clever account of its contents. We are still unable, however, to do little more than announce the appearance of the SECOND EDITION. It is bound in cloth and makes a very nice appearance. The author tells us that he has in this edition sought

to give a very faithful record of the subject of which the work treats. Some portions have been amended, some paragraphs excluded, and considerable additions made. A *short chapter* on "Gunshot Fractures" has been added to this edition. The work has been placed on the "Supply Table" of the Army, a compliment it deserves.

This is the first American work on "Fractures and Dislocations." The only works in the English language specially devoted to such subjects, were those of Dessault and Boyer, translated from the French some fifty years since, and those of Robt. Smith and Sir Astley Cooper; the former on "Fractures in the vicinity of Joints, and Certain forms of Accidental and Congenital Dislocations," and the latter a Treatise on Dislocations and Fractures of the Joints. Malgaigne's work has been before the profession of Europe for some years, and has lately made its appearance here. It is perhaps the most thorough and elaborate of any that has been written on the subject.

Prof. Hamilton has placed the profession here under obligations to him, by collecting from the medical Journals of our country all that in any way related to the subjects of "Fractures and Dislocations." He has made up his book, indeed, as much as possible from material gathered at home.

It is not necessary for us to say that this work is meritorious. The author has been at more than common pains to see what others have done in his line, and how they have done it. He has, as the reader may observe, passed much of the work of his predecessors in review. Where he has attempted criticism and the reform of errors, he has been liberal and candid. No one really can look through the work without being impressed with the close, rigid thought everywhere present.

Surgical science appears to good advantage in the treatment of Fractures and Dislocations. Still, it should always be recollect ed that we are yet very far from perfection. In the treatment of Fractures both in this country and Europe, the rule is, "*imperfect results.*" This is conclusive as to one of two things—either wrong plans of treatment, or an impossibility in attaining to perfect results. That we have the right dressing for many fractures is what some are very slow to believe. It may with great propriety be doubted whether there is yet invented an apparatus suitable to prevent shortening of the femur when factured obliquely, or such

as will prevent deformities in fractures of the patella, clavicle, olecranon. The work before us is very full, it must be acknowledged, of suggestions and fixtures for each of the above accidents. We notice, though, nothing new. The author has contented himself with a resumé of what others have proposed.

The confident tone characterizing the writings of authors on the treatment of fractures has had the effect of placing the profession in a position that has not always proved either convenient or profitable. A surgeon of eminence after, for example, having had a successful result in a case or two of fractured thigh, publishes to the world an account thereof, and with the assurance that cases may always be treated with the same results. Such cases have been made the standard by which members of the profession have been judged. Young men in the profession have been often called to account for results that were unavoidable in any one's hands, simply because some one, in an incautious mood, had said that perfection ought to be the rule in all cases of fracture of the thigh.

The "repair of broken bones" is a subject upon which there has been and is now some diversity of opinion. It is deeply interesting to the student, because he will find that his success will depend on having some knowledge of the subject. It seems to be true that, between the broken ends of bones, there is poured out a reparative material, a plastic substance, called by some *callus*, and that this matter becomes the bond of union between the fragments. In the language of Dupuytren, "Nature never accomplishes the immediate union of a fracture," save by the formation of two successive deposits of *callus*, one of which is derived from the periosteum and the adjacent tissues, and from the medulla; while the other, derived from the broken extremities of the bone itself, is found at a later period directly interposed between these surfaces. The *callus* deposited on the outside of the bone has received different names, according to the particular views of authors. Galen called it a "ferule;" Paget, "ensheathing" *callus*; Dupuytren spoke of it as "provisional" or temporary. The interior portion of this "provisional" *callus* has, by pretty general consent, been called a "plug," or rather compared to a plug. The band of *callus* on the exterior, and the plug corresponding with the cavity and between the ends of the fragments, make up a kind of natural apparatus for keeping the parts in position. For this material Dupuytren's name, "provisional," is the best. The substance is

merely provisional, is nature's provision to prevent movement of the ends of the bones. This provisional callus is matured into the condition of spongy bone. At what time after a fracture does nature commence pouring out this provisional callus? and at what time is it so well solidified as to render the bones immovable? These are questions that interest the surgeon. It seems to be of but little use to put a patient in restraint for the purpose of securing coaptation of the fragments previously to the period when nature puts on her splint. Dupuytren thinks the deposition of callus commences about the *eighth* or *tenth* day. The period of course varies according to the age of the patient and the character of the fracture. In children or young persons of vigorous constitution, the process of deposition would be earlier than in old persons; and in compound fractures and comminuted fractures the period would be later than in those of a simple character. The author just cited, thinks that the process is completed so fully as to render the fragments immovable by the twentieth or twenty-fifth day. This, too, depends to some extent on age and the character of the fracture. It is to the surgeon an important period, because previously to the time the callus is solidified changes may be made in the way of adjustment; but none after that period. The "provisional" callus, by pretty general consent, is regarded as continuing until about the fifth or sixth month. From this period until the end of the tenth or twelfth month nature is employed in removing the *provisional* material; or in other words, in dressing up the parts in order that the limb may be as smooth as possible.

Dupuytren's doctrines, although in general we think very near the truth, have been modified some by recent research. Perhaps Dupuytren was a little too mechanical in his views. He certainly had the truth to commence with, but he seems to have erred in supposing that the process he described for the repair of broken bones was the only one. It is supposed that we may have a reunion of broken bones without the interposition of this reparative material; and again, it is suggested that when the callus is thrown out it does not always make a sheath for the exterior of the bone, or a plug for the cavity, but is found to be deposited very partially. This is true of bones situated superficially; such, for example, as the tibia. It is no unusual circumstance to find, after a fracture of the tibia, absence of callus upon the more superficial parts, while those parts covered up deeply with muscles have the callus.

From this brief review of the subject of the repair of broken bones, it is seen that it requires about twelve months to complete the cure of a case of fracture. How much is such a fact appreciated? Twelve months is the period during which, by accident or premature use, the ends of the bones may become displaced. How many patients have been instructed to refrain for a year from the use of a limb that has been fractured? It is true that such may not always be necessary, but it is also true that many cases require restraint for a longer period than twelve months from the date of the fracture.

A matter of some importance in forensic medicine is, that the material deposited between the fragments of a broken bone becomes more compact and harder than natural bone; and, all other things being equal, a bone would be more difficult of fracture at the point previously fractured than at any other.

Nearly three hundred pages of the work are devoted to *Dislocations*. The general subject of dislocations is but partially discussed. Enough is said, however, to call attention to the subject and stimulate inquiry. The remarks of the author are generally very correct, but they seem to us not as exhaustive as they should have been in a work principally devoted to the subject of dislocations.

The first indication of treatment is to reduce the bone, the author says; and he considers all the modes of accomplishing this result properly coming under the heads *Extension* and *Manipulation*. On the subject of "extension" we see nothing especially worthy of note. The mode of reduction by manipulation is discussed at length, and, as we think, placed by the author in its proper light. We think the revival of manipulation one of the great improvements, if not the greatest, of modern times. We say the revival of the method of reducing by manipulation, because it appears the mode is as old as medicine. Hippocrates practiced it. "In some," he remarks, "the thigh is reduced with no preparation, with slight extension directed by the hands, and with slight movement; and in some the reduction is effected by bending the limb at the joint and making rotation." This looks like a very clear instance of the employment of manipulation for the reduction of the thigh-bone. Wiseman, who wrote about two centuries since (and, by the by, wrote an excellent work), seems to have also practiced the same method of reducing the thigh-bone. Quite a number of surgeons

appears to have practiced the method since the time of Wiseman, including Dr. Phillip, Syng Physic, Prof. Nathan Smith of New Haven Medical College, and Dr. Wm. Ingalls of Chelsea, Mass. Now while there can be no doubt at all that this method of reducing a dislocated thigh-bone was practiced by quite a number of surgeons anterior to our age, it is nevertheless a fact that the process was so little appreciated, if even understood, that but few treatises on surgery noticed it, and that no mention of it is made by any of the works of the present century until since the year 1851, when Dr. W. W. Reid of Rochester, New York, called the attention of the profession to it. Dr. Reid published an account of the method practiced by himself in three cases of dislocation upon the dorsum *illii*, the first of which dated from the year 1844. His method, as applied to a dislocation on the dorsum of the ilium, consists in "flexing the leg upon the thigh, carrying the thigh over the sound one, upwards over the pelvis as high as the umbilicus, and then abducting and rotating it." To Dr. Reid, then, we are indebted for the exhumation of this process, to say the least. He brought it forward and revitalized it by the publication of three successful cases, and now it may be regarded as an improvement that will live as long as medicine itself. We have but a very limited experience in the mode of Dr. Reid, but this, limited as it is, has impressed us with the superiority of the method over all others.

We close our brief notice of this volume, and very cheerfully commend it to our readers.

Statement of the Object and Methods of the Sanitary Commission, appointed by the Government of the United States, June 13, 1861. Published by its direction. New York: Wm. C. Bryant & Co., 1863.

This report has been laid on our table, and we find, from its perusal, that it is a purely voluntary organization, its object being fully set forth by its title. The Government, it is known, has also an organization for Sanitary purposes. The two organizations act independently of each other; the one depending for its supplies upon private, the other from public sources.

The Treasurer of this organization reports having received in cash, from June, 1861, until Dec. 7th, 1863, \$919,580.98. The disbursements of the Central Treasury for the eight months ending

Dec. 1st, 1863, have been \$341,118.83 ; or, on an average, a little over forty-five thousand dollars a month.

The Commission meets at Washington quarterly, and holds special sessions when required. During the intervals between its sessions its affairs are administered by its chief executive officer, the General Secretary, and by a Standing Committee of five of its members, which meet daily in New York. Two Associate Secretaries are at Louisville, and a second at Washington ; the former charged with the work west of the Alleghanies, the latter including positions on the sea-board and the city of New Orleans. Besides the officers enumerated, there are several hundred "Associate Members," selected at prominent points of the country.

During the summer of 1861 the Army was supposed to be in great danger of being destroyed by epidemic disease. As a consequence the Sanitary Commission was organized. The first business of the Commission, therefore, was to awaken general attention to the sanitary interests of the Army by improving the condition of camps, hospitals, and men. Officers were at once warned of the consequences of filth, bad ventilation, bad food, and unnecessary exposure.

The following concerning our armies and the British is given by way of comparison :

"The average annual loss of the whole British Army during the Peninsular War was one hundred and sixty-five men out of every thousand. Of these one hundred and thirteen died by disease or accident.

"From 1803 to 1812 the average annual death-rate of the whole British Army 'abroad' was 80 per 1,000—71 by disease and accident, and 9 by wounds in action.

"In July, August and September, 1854, the British Army in the Crimea lost at the rate of two hundred and ninety-three men out of every thousand per annum. Ninety-six per cent. of this loss was from disease. During the next three months, October, November and December, 1854, their loss was at the annual rate of five hundred and eleven out of every thousand, seven-eighths of which loss was by disease. In January, 1855, it was *at the rate of 1174 per 1,000 per annum*, 97 per cent. of this loss being due to disease. During the first three months of that year it was at the annual rate of 912 per 1,000, and ninety-eight per cent. of the loss was due to disease.

"Up to May 18, 1862, our armies had lost at the rate of fifty-three per thousand per annum, and only forty-four percent. of that loss was by disease and accident.

"In estimating the value of these figures, it must be remembered that the conditions under which our soldiers serve have been generally unfavorable. Their field of operations includes large districts quite as insalubrious as any part of Spain, Portugal or the Crimea. There has at all times (and especially during the first year of the War) been among them a large proportion of half-disciplined recruits and of inexperienced officers, while the soldiers of Great Britain in the Peninsula and the Crimea were regulars under high discipline, and commanded by professional officers. The Commissariat and the Medical Department of the British Army were parts of a system long established and matured. In May, 1862, ours were newly organized (for the purposes of this War), and not yet in perfect working order. The Peninsular and Crimean Armies had therefore material advantages over our own. Yet we have lost fewer men by disease. Even on Morris Island and in the pestilential swamps of the lower Mississippi our loss by disease has been smaller than that of any Army about which we have authentic information."



Editorial and Miscellaneous.

Sixteenth Volume.—With this number we commence the sixteenth volume of the JOURNAL, and with the determination to make it, if possible, more useful in the future than it has been in the past. No duty is perhaps more difficult than the one of conducting properly a medical journal. To select from the labors of correspondents, and from exchanges, what will interest and benefit the reader, is a task the performance of which is by no means easy. Editors are apt to make their own taste the standard; and it is easy to see that very egregious mistakes, as a consequence, may be committed. Our object has been to furnish our readers with the views of cotemporaries, and to record facts, phenomena, and

events. In venturing opinions of our own it has been our aim to see first what the fathers, the good and the great, have said. In adopting this course, we have imagined our feet to rest upon the surest possible foundation.

In noticing or reviewing new works, supposed errors have been pointed out, though not in a spirit of hyper-criticism; while merit when present, has always been fully bestowed. In no instance have we ever introduced a personality into the work.

Within the last three years our "exchanges," which had been between thirty and forty, representing all sections of the continent, have diminished down, until we scarcely have half a dozen upon our list, and several of these are very tardy and irregular in their appearance. A variety of circumstances have contributed to this result. Most of the journals have been discontinued from the increased expenditure necessary to their publication, and the circumstance that a large proportion of subscribers are absent from home engaged in military duties. An additional explanation may be sought for in the fact that the present period is one of action more than of deliberate thought; the stock accumulated is in demand, and but little time or disposition to engage in new inquiries, or see what our friends abroad are doing upon the frontiers of our science.

Of course it is not strange that under such a condition of things a question involving the continuance of this work, which has now been in existence for a period of fifteen years, and issued most of the time with great regularity, should have been agitated. When, however, the subject is viewed properly, a number of reasons may be assigned why the work should be continued. These will readily suggest themselves to any one who will think for a moment.

Surgeon-General Wm. A. Hammond.—This gentleman has been arraigned before a Board of Examiners charged with defrauding the Government. The specifications are quite numerous and relate entirely to movements connected with his official station. It is to be hoped, for the credit of the profession, that the charges against the Surgeon-General may all prove, on investigation, to be false.

The "Calomel and Tartar Emetic" edict, showed the Surgeon-General to have a very respectable stock of vanity on hand; and also had the effect to induce right minded men to suspect that

there might be emergencies some time or other, that would reveal cerebral weakness in his case. Still no one, as far as we have heard, entertained apprehensions of a fissure in the Surgeon-General's moral nature. We hope the Surgeon-General may be equal to the troubles before him.

Death of Prof. L. M. Lawson.—We are pained to have to announce, in this number, the death of Prof. L. M. Lawson. This event took place in Cincinnati on the 21st of January.

We have no material at hand for making up a suitable notice of the deceased. As a medical scholar, a journalist, and an author, Prof. Lawson impressed himself very favorably upon the age in which he lived. He commenced his public career as Editor of the *Western Lancet*, the first number of which he issued in Cincinnati in May, 1842. He continued as sole editor of the work for some years, when it passed into other hands, and is still issued in Cincinnati by the title of *Lancet and Observer*. As a professor, Dr. Lawson has been connected with several schools of Medicine. He gave his first course of lectures in Transylvania University, Lexington, Ky.; subsequently he has occupied chairs in Louisville, New Orleans, and at his death in the Ohio Medical College.

After Dr. L. retired as editor of the *Western Lancet*, he commenced the composition of a work on diseases of the lungs. The work he entitled, *A Practical Treatise on Phthisis Pulmonalis, embracing its Pathology, Causes, Symptoms, and Treatment*. The work was issued in Cincinnati by Rickey & Mallory, and in New York by S. S. & Wm. Wood, 1861.

To the medical profession Dr. L. devoted his life exclusively. Possessed of a good order of intellect, he was one of the number never diverted in the direction of any of the sophistries with which scientific medicine has been of late so much diluted. With an abiding faith in the power of drugs, he applied his powers industriously in investigating their application to the cure of disease.

As a writer, Dr. L. was one of the most voluminous in the West. Many of his essays are models of fine composition, while his treatise on diseases of the lungs shows, among other things, in an eminent degree, the beauty and force of which our language is capable.

As a teacher, Dr. L. was very successful. His didactic efforts were very popular with students, which, by the by, is a good test of merit. Intuitively he seemed to possess the power of extracting the available and the important of his department, and these he laid before his audience in accordance with the laws of intellectual ingress.

In his social relations, Dr. Lawson possessed very excellent qualities. Dignified and noble in his bearing, he was also modest and amiable in disposition. Towards the young men of the profession, he was kind and liberal, and towards none censorious. The medical fraternity of the city of Cincinnati have lost in the death of Dr. L. one whose memory it will delight to honor, while the Faculty, of which he was a member, will feel keenly the sad bereavement.

Braithwaite's Retrospect.—The January No. of this work has just been received. It is published in New York, by W. A. Townsend. There are agents in all the large cities of the country, and besides, the work can be had from most of the booksellers. It is issued twice a year, at \$2.00; single copies, \$1.25. The work was commenced in 1840, and has been issued simultaneously in this country with the London edition. It is a valuable compendium of Medicine and Surgery. The excellence of the work consists in the fact that it embodies in a confined space the most valuable articles of the medical periodicals of this country and Europe.

Psychometry.—This is a new edition of spiritualism. The "mediums" have made a fresh start. Tired of the old processes of rapping, bewitching tables, etc., they now announce that they have acquired the power of reproducing, in all its vividness, the PAST. The old name "*medium*" is doffed, and those claiming the possession of the powers wish themselves known as psychometers. By merely touching a piece of any thing—a piece of wood, bone, or stone—these characters can tell, they say, all that has ever happened to it. Touching an individual they, in like manner, become possessed of his entire history. So things go, they do.

Resection.—The German naturalists have been engaged in discussing at Stettin the subject of *resections*. Bardeleben explained at length the method of operation. He eulogized the plaster bandage in the after-treatment, and dwelt upon the following important points for the success of the operation :

1. None of the capsule of the joint should be allowed to remain.
 2. The after-treatment must be carefully and minutely attended to: A plaster bandage strengthened by strips of wood is best adapted to this purpose, and it should be water-tight, so that the water-bath may be employed.
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To Subscribers.—As the business department of the Journal for the ensuing year will be conducted exclusively by Prof. T. G. Wormley, subscribers will confer a favor by sending their remittances to his address. They will please give their address in full, always stating the county. Persons desiring to complete broken sets of the Journal can be supplied with most of the previous volumes, or separate numbers, at half their published price. It is most earnestly requested that all who know themselves indebted will promptly forward the amount.

Ovariotomy.—The following remarks from an article in the *Gazette Hebdomadaire*, though it may not gratify our national pride, may interest our readers, and at all events afford a good example of French vanity :

“ In order to remove these enormous tumors we are compelled to largely open the abdomen, and to manœuvre within the depths of the most vast visceral cavity, the one most disposed to inflammation, and the inflammation of which is the most redoubtable of all. The necessities of the operation often give rise to prolonged and multiplied manœuvres, to extensive lacerations, and to almost violent struggles, with the resistances which may arise. Such is ovariotomy in its sombre and too real physiognomy. This formidable operation was first practised, and with success, in France towards the end of the last century, and an account of it is found in the *Mémoires de la Société de Médecine* for the years 1782–83. Since that time, however, our surgeons have not renewed the attempt,

fortunate though this was. Calculating by their daily practice what their art allowed them to attempt, they deemed a like operation beyond the powers of Nature herself, and would not allow an exceptional case to be converted into a law, sacrificing numerous victims for the chance of meeting with an unexpectedly successful result. With good reason, such success did not seem to them to offer a sufficient compensation for the calamities by which it must be purchased. They renounced the extirpation of ovarian cysts, and treated them by repeated tappings, and in later years by iodine injections, which, in cases of simple unilocular cysts, not unfrequently lead to a durable cure.

"The operation, proscribed among ourselves, became, however, gradually adopted in America and England, the surgeons of these countries declaring that they did not meet with the terrible accidents so redoubted among ourselves, while they frequently obtained the cure of a disease almost always fatal. As long as these statements only came to us from the other side of the Atlantic—the distance that intervened, the incredible rashness of American surgery, the absence of control in a society in which individual liberty reigns as absolute mistress, the excesses of charlatanism and hasty publication, and our ignorance of the true value of the men who spoke and wrote—all these circumstances rendered us very incredulous, and we remained peaceably amidst our traditions of timid surgery; but when cases came to us from the other side of the Channel—when we saw London surgeons of repute practising ovariotomy, bringing it within the category of legitimate operations, when we learned their successful results, and were enabled to control these, and when verified statistics swelled their unexpected number—emotion overcame us, and the spirit of resistance gradually gave way. Several of our most distinguished surgeons repaired to London, examined patients already operated upon and cured, saw the operation performed, followed up its results, and had all doubts removed from their mind. Ovariotomy they declared to be a beautiful conquest of modern surgery, and they returned home decided to render it popular among ourselves.

"These occurrences took place just at the time when the Hospital question was being discussed in the Academy. The unsanitary conditions attributed to our hospitals, the mischievous effects of overcrowding upon those who had undergone operations, and the importance of hygienic and consecutive treatment—all these

points, brought into relief during the debates, were taken into serious consideration by those who were desirous of introducing and naturalizing in France the surgical achievements of our neighbors. The most minute precautions were taken before proceeding to the operation, and the patients were placed either in the country, in *maisons de santé* in the neighborhood of Paris, or, if in Paris itself, in separate, well ventilated rooms, uniting every imaginable condition of salubrity. Alas! in spite of all this care, the check which our surgeons have received is lugubrious. The splendid recoveries observed in London have not been obtainable here. We cannot state in a very precise manner the number of women who have been subjected to ovariotomy, but it has been sufficiently large to render the proof decisive. A more or less speedy death has been the termination of most of these attempts, skillfully as they have been conducted. Scarcely have some rare cases proceeded on to a favorable result; and even the recoveries themselves do not exhibit the moving spectacle witnessed by the English surgeon of fearful and complicated manœuvres combined with terrible accidents, yet followed by a cure taking place amidst a state of calmness with a surprising facility. Thus it is that our surgeons, discharged, will for the most part recur to their former timidity, some of those who were at first the most ardent in the attempt, feeling now no disposition to repeat it."

Fever in Hospitals.—We have the melancholy duty of recording the death of another member of the resident staff of Bellevue Hospital. Dr. Rowe is the fifth resident medical gentleman who has died of fever contracted in the discharge of his duties in this institution within the last nine months. During the same period ten more of the staff have passed through the fever, and have recovered or are now convalescing. This is a startling record of mortality under any circumstances, but in the present instance is simply harrowing. Five young physicians in the vigor of early manhood, lingering still in this great practical school to give to their education that perfection of temper and firmness necessary to rapid success, fall victims to fever. In the death of such young men, highly educated, devoted to duty, and of noble aspirations for excellence, the whole profession sustains a great, an irreparable loss. It can ill afford to needlessly sacrifice on the altar of human-

ity those who are so eminently qualified to sustain its dignity and honor, and to advance the science of medicine beyond its present bounds. If these things must needs be, if suffering humanity demands the sacrifice, the victims are always ready to be offered. The noblest members of our profession have yielded their lives a willing offering to stay or mitigate the horrors of pestilential and epidemic diseases. Our hospitals bear ample testimony to the courage and heroic bravery of young medical men in the midst of danger from the most fatal infectious and contagious diseases. No post of duty is deserted, and when one falls another instantly steps forward to fill the ranks.

But however necessary it may often be for the physician to take his life in his hand, and go boldly into the midst of infection, and if need be incur the fearful penalty of death, the question recurs, Is it necessary to sacrifice so many valuable lives of young medical men in our hospitals to typhus or typhoid fever? Are not these preventable diseases? What are the teachings of sanitary science? We earnestly put these questions to the Medical Board of Bellevue Hospital, and to the Commissioners of Charities and Corrections, as the constituted guardians of the sanitary affairs of our largest hospitals.

The spacious and liberally provisioned hospital buildings, with their thousands of comfortable beds, bear testimony to the beneficent and large purposes of the governing Boards of these noble institutions, but if it occurs that by some failure to conform their administration in accordance with the inflexible laws of sanitary science and the requirements of nature, the costly edifices and the richly furnished wards are transformed into fever-nests, and furnaces of infectious and deadly disease, spreading death to all classes of patients, and secretly poisoning the faithful attendants and zealous young physicians who are on duty there, then we are in duty bound to press the inquiry—Who is responsible for the needless sacrifice of these lives? and the official guardians of those institutions must ask, What does sanitary science teach concerning such maladies?

It is not our purpose to enter upon an elaborate discussion of this subject, but it is manifestly necessary that instant and thorough reform should be effected in reference to the causes of endemic and infectious fevers in our hospitals. Though the local-

ization of such maladies is an opprobrium to any hospital, lamentable experience in a very large number of hospitals in our country has shown how very difficult is the task of eradicating the typhic poison in the wards and quarters where it finds a wonted nidus and hiding spot. Sanitary science teaches, and experience has abundantly demonstrated, that typhus and typhoid fevers are absolutely preventable diseases, and that the typhic poison itself is not so incorrigible as to defy medical and police control. But the virus of these fevers must be rigorously dealt with as a terrible foe. Its birth is in the crowded ward, the unventilated and densely packed hall, the filthy tenement, and where effete organic matter chances to be accumulated or neglected. The essential fact relating to the processes of these fevers is, that they rapidly waste the organic elements of the human structure, and that in ordinary apartments with an atmosphere at all confined, as by closure of windows and open fire-places, typhic poison is fearfully communicable or personally infectious and contagious. And these are the facts that demand attention from the governing Boards of our hospitals.

Shall the present causes of the fever pestilence in Bellevue and other hospitals continue, because, forsooth, there is supposed to be an *epidemic constitution* of the season or of the atmosphere this year? The same fever tragedy is enacted within the same walls, and from the same preventable causes, year after year; and it will be repeated every winter until those causes are removed. Five of the choicest young physicians in a single institution killed by this stealthy enemy of our hospitals, during the past few months! More such sacrifices will rapidly follow, unless medical men come forward, and, with the redeeming power of sanitary knowledge, effect the needed reform.

As a preliminary step in that work of reform, let a rule be peremptorily ordered in all the hospitals of this city, that patients with typhus or typhoid fever shall not be allowed to remain in a ward where there are any other maladies, surgical or medical; and, secondly, let there be such improvements in the ventilation of all the wards and hospital apartments as will effectually prevent the presence or the continuance of an endemic typhic condition. *An abundant and continual supply of fresh air dissipates and destroys the typhic poison.*

But the windows will be closed, the fire-places are already hermetically sealed in most wards, and, sad to say, nurses and patients alike cry out against fresh air; they are not accustomed to such air; surgical patients, consumptives, dyspeptics, and bed-ridden patients with organic maladies, will not endure and do not need such ventilation as the fever patients must have. For such, and for stronger reasons, the fever patients must be put into a domestic quarantine, and should be kept immersed and flooded in fresh air. And for fever wards there should be a specially rigid government, and *specially trained nurses*. This can only be thoroughly accomplished by establishing a fever hospital. And we put the question to the Commissioners: If they ought not to open on the spacious islands under their charge a separate building for the reception and treatment of fever? A simple pavilion can be quickly constructed with full ventilation, which would insure a greater percentage of cures, and complete immunity of attendants from this fatal disease. Such a fever pesthouse is as much required as a separate building for the isolation of small-pox.

We know how vague and uncertain the practical knowledge of these considerations is among medical men; and because we are forced to witness most cruel and needless sacrifices of precious lives, in consequence of such inattention to momentous facts, we speak thus urgently. And we pray our medical brethren to lend their aid to the work of rooting out the fever nests of our crowded districts. Let them insist upon the removal and proper surveillance of all communicable sources of contagious fever, and soon we shall see each hospital establishing a separate and well isolated pavilion for the treatment of such fever; and not until such fever pavilions or "shanties" are substituted for fever wards, or promiscuous wards for typhic patients, will fevers cease to burst forth in our large hospitals; and while the fever demon of the crowded hospital holds carnivals, noble young martyrs will swell the immortal group of faithful physicians whose heroism in duty ennobles the history of the medical art, and to whose names the profession affectionately points and says: *Hæc mea ornamenta sunt.—Amer. Med. Times.*

Latent Syphilis.—In reply to an inquiry addressed to medical practitioners in all countries, "On the Influence which an Anti-

Syphilitic Mercurial Treatment of Parents has on the Health of their children," Hebra draws certain deductions from ten cases occurring in his private practice, among which conclusions we find the following : "Syphilis may remain latent in the body, without discovering itself by any symptoms, and first betray itself by the syphilitic affection of the children."—(*Year-Book of Surgery*, 1860, p. 322.) By which is meant, that a man may contract syphilis, and fancy himself well, and yet after marriage, at some distant period, while in apparently perfect health, beget children, who may become the subject of the syphilitic taint in a constitutional form. The great difficulty in obtaining perfectly reliable information on these questions from patients must be admitted by all, but still, with care, we may arrive at a close approximation of the truth.

Hebra states a fact which has been recognized by many in the surgical practice at St. Bartholomew's Hospital for a long period. The two following cases, which came under Mr. Coote's care on August 15, 1863, illustrate, he considers, Hebra's views :

CASE 1.—Jane M., aged 27, a healthy looking young woman, married three years, came to the hospital bringing an infant covered from head to foot with syphilitic psoriasis. She said that the eruption showed itself a few days after birth, and the child had since pined and become emaciated. She added that she had had one other child about eighteen months previous, which was born dead. The closest inquiries were made as regarded both her own health and that of her husband. She replied readily and frankly, with the full knowledge of the purpose of the question, and assured us that no illness had shown itself on either herself or her husband in any way during their married life. The child was ordered two grains and a half of mercury and chalk twice a day, and is going on favorably.

CASE 2.—Elizabeth A., aged 16, a slightly made, pallid child, living with her parents, came to the hospital with a circular and perforating phagedænic ulcer of the soft palate, the size of a six-pence, with tawny surface and inflamed circumference. There were adhesions of the left iris around the pupillary margin, but no indications of recent iritis. She was questioned with care, consideration being of course shown to her youth, and it was obvious that she was innocent of any irregularity. It was also denied that either parent had ever suffered from syphilitic disease during

married life. The edges of the ulcer were touched with nitric acid diluted with five parts of water. She was ordered three grains of iodide of potassium in sarsaparilla. The case is going on well.

Hebra adds that the reverse may happen, viz: fathers infected with general syphilis may neither infect their wives nor produce syphilitic children. In illustration of this statement, I mention the following case:

CASE 3.—Thomas W., aged 38, a respectable man, contracted syphilis twelve years ago, and only on that occasion. He had an indurated chancre at the reflection of the prepuce on the glans penis. It was treated with mercury and disappeared, and the man remained well for two years, when he became the subject of syphilitic lepra, chiefly affecting the arms, chest, and head. In course of time the eruption disappeared, and seven years ago he married. His wife and children are in good health, but he is subject to syphilitic ulceration of the tongue and fauces, and to occasional attacks of lepra in a slight form.—*Med. Times and Gazette*, September 15, 1863.

Excision of a faultily united Fracture of the Humerus.—A rather curious and somewhat interesting case was submitted to operative relief this day week at St. Bartholomew's Hospital. A man, aged about twenty-six, sustained on board ship a fracture of the left humerus at its upper third, a fracture of his left femur, and some injury to the ankle-joint of the same side, about twelve months ago. The fractures were set by the carpenter of the ship. The thigh united tolerably, but the leg is shorter than its fellow, and there is lameness. The broken humerus united in a faulty manner, so that the parts were almost at a right angle to each other, the projection being directly outwards. The arm was practically useless, and the patient came under Mr. Paget's care. On examination, there was an apparent but not real false joint. The man being put under the influence of chloroform, an effort was made to break the fracture, but without success. Mr. Paget therefore cut down upon it, dissected off the periosteum, and cut out a wedge-shaped piece of the united fracture with a fine saw, and then readily broke the remaining portion. This permitted of complete coaptation; indeed, better almost than if the fracture had been properly set. After all oozing had ceased, the wound was

closed with silver sutures, and the arm was most carefully adjusted on a suitable splint. Union is most certain to ensue ; but for a satisfactory union a great deal will depend, Mr. Paget remarked, upon the attention bestowed upon the case by the house surgeon.
—*Lancet*, July 18, 1863.

Varicocele of Twelve Years' Duration—Great Pain in the Testicle—Operation by Wire Ligature—Cure.—H. G., æt. 24, a butcher, was admitted into Westminster Hospital, under the care of Mr. B. Holt, April 16, 1863, suffering from varicocele of twelve years' duration. He states that for many years he has been accustomed to ride for several hours a day, and frequently without a saddle ; that he does not remember to have met with any accident, but that his business required him to stand for a considerable period of the day ; that he always felt weak, but has not been laid up with any serious illness. Twelve years since he complained of pain in his left testicle, which was increased upon exertion, and occasionally was very severe at night. He consulted a surgeon, who advised him to wear a suspensory bandage ; but, although he had continued to do so, the pain in the testicle had latterly so much increased as to compel him to abandon his work. Upon examination, the usual tortuous and congested condition of the veins was detected behind the testicle, which, however, could be emptied by placing him in the horizontal position ; but when pressure was applied over the external abdominal ring, and the patient was desired to resume the perpendicular, the veins were more swollen than before. The vas deferens could be easily isolated.

Mr. Holt determined to tie the veins with the wire suture by the subcutaneous method ; and the patient being placed under the influence of chloroform, and the vas deferens isolated, a needle armed with the wire ligature was passed through the scrotum behind the diseased veins, and made to perforate the scrotum on the inner side. The needle was now made to enter at the same opening, and the wire was passed in front of the veins, and so out at the first puncture , thus no skin was included in the wire loop, but merely the veins and some areolar tissue. The wire was now twisted, and the same proceeding was adopted a little lower down, by which the veins were thoroughly included in two ligatures. The wires were now shortened, the intention being to subject the veins to

compression for three or four days, and then to remove them by simply untwisting them. For the next three days the patient was comfortable, and did not complain of pain. There was slight swelling, and tenderness when the part was touched, but no other pain. On the fourth day Mr. Holt intended untwisting the wires as before described; but the twisted portion was so deeply imbedded that he determined to cut both ends short, and leave them as permanent compressors. The punctures healed in two days, and the wires remained, not exciting any irritation or disturbance, and the patient was able to work without inconvenience. He was detained in the hospital for a fortnight that Mr. Holt might see whether any inconvenience was experienced; but none having occurred at the expiration of that time, he was discharged, but requested to present himself from time to time that the result might be watched. The veins between the ligatures were entirely obliterated, and the patient described himself as perfectly free from any pain in the testicle. He has presented himself occasionally as requested. The wires can be felt, but they do not occasion any inconvenience, and he has resumed his work with a perfect immunity from pain.

Mr. Holt remarked that this was a case from which probably some instruction might be derived. He stated it was not his intention, in the first instance, to have left the wires around the veins; but as there was some little difficulty in their removal, he determined to retain them, as in all probability they would not excite irritation, and they would positively prevent any recurrence of the disease. He considered it was a practice that might be repeated with advantage. The pain of the operation was merely that which resulted from the two punctures in the skin, and the patient had not otherwise suffered, as was almost always the case when any portion of the integument was subjected to pressure. The operation was in itself of the easiest possible kind to perform, and he did not consider the patient need be confined to bed. Should future cases be attended with a like favorable issue, the proceeding would become general, and the pain and time of the patients be considerably abridged, while the question of recurrence would be entirely set at rest, such an occurrence being impossible so long as the wires acted as compressors.—*Lancet*, Aug. 16, 1863.

Clinical Lecture on Cases of Retention of Urine. By JOHN ADAMS, Esq. Delivered at the London Hospital.

GENTLEMEN: I now direct your notice to three cases of retention of urine admitted last week. They are interesting as affording each an illustration of a different class or type of cases.

The first is that of a man thirty years of age, who was admitted for retention from what is called spasmodic stricture, and whose history is briefly this: Ten years ago he was a soldier in the Belgian army, and suffered from severe attacks of gonorrhœa. He was not addicted to drink. Retention of urine came on suddenly, for which there appeared no assignable cause, and he was admitted with an immensely distended bladder. A warm bath was ordered, after an ineffectual attempt was made to pass a moderate sized catheter, and Mr. Spencer, the house-surgeon, passed a No. 10 catheter while the man was in the bath. The instrument was used again the next morning, and he left the hospital in three days with no complaint except a slight scalding in passing urine.

I consider the treatment here pursued quite judicious in such a case. Retention is apt to supervene on free drinking, especially when a patient is affected with a gonorrhœa, and a patient so circumstanced will walk into your room with an enormously distended bladder. You waste no time by leeches, or by the warm bath if you can do without it, but place him against a wall in the upright posture, and take a rather small elastic catheter, which you will slip in at once, and you may probably draw off a couple of pints of urine. You will often find in private practice that you may be called up to such cases; you will also find that the patient will not call on you again, until, from some irregularity of living, he has need of a repetition of your services. The cause of the retention is not apparent in this case, but it may be fairly said to have arisen from spasm, coupled with some inflammation of the urethra.

The next is a case of retention of urine from an enlarged prostate: the man's age is seventy-six. The history of this case is plainly that of a man who, although a free drinker in early life, enjoyed uninterrupted health until he was fifty years old, when he began to suffer pain in the kidneys, and his urine deposited a brown sediment and had a very unpleasant smell: these latter conditions probably depended on a slight mixture with blood. These symptoms continued with varying degrees until he had reached the age

of seventy-one, when he found a difficulty in passing his water ; and at last he had complete retention of urine, for which he was admitted under my care. The prostatic catheter was passed, and he left the hospital after a month's treatment apparently quite well. He was again relieved of a retention of urine by the catheter in this hospital in September last ; and he now comes in again in precisely the same state, and he is relieved in the same manner, and so he will go on until the end of the chapter.

He is a hale, hearty man, and evidently has suffered but little pain from his disease.

Such cases are of almost every-day occurrence, and therefore it is of the utmost importance that you should understand them. In these cases it is of no use whatever to waste any time in the employment of leeches, the warm bath, or medicine. The retention is from pure mechanical obstruction, and you must draw the urine off with the catheter. You must at once introduce the prostatic catheter, and with the manipulation always recommended in such cases there is no difficulty in relieving your patient. The after-treatment consists in the use of the catheter two or three times daily until the patient can pass his urine without it ; and if he cannot do this after two or three weeks, it will be your duty to teach him to introduce the catheter and draw the urine off himself. In this way he may live on for many years, and enjoy such comforts of life as may appertain to his advanced age.

The last is a case of retention from permanent stricture, in which it was necessary to puncture the bladder. The patient is a young man thirty-two years of age, who has been the subject of permanent stricture for many years, and in whom no catheter has ever been passed. I was called to him a week ago, and found that attempts had been unsuccessfully made to relieve the retention. He had lost a large quantity of blood by the urethra, and had only passed a gill of urine whilst in the hot bath. I attempted to introduce the catheter, but failed, and found that the instrument passed out of the canal by a false passage. There was no great distention of the bladder ; and as he had a drop of croton oil, which had not operated, I ordered him to take thirty drops of laudanum ; and I directed the house-surgeon to send in the evening if his bladder was not relieved, as I anticipated the necessity of puncturing the bladder. Things turned out as I expected, and I requested Mr. Cooper to see the patient in my absence, and to act as his judgment

suggested. Mr. Cooper punctured the bladder per rectum, and drew off three pints of urine. The instrument was left in.

Now mark the result in this case: in less than two days from the time the bladder was punctured the urine flowed freely by the urethra, and the man is now comparatively well.

This case is interesting in every point of view—first as illustrating a very common class of cases, and next as showing the great value of the simple operation of puncturing the bladder per anum. Much advantage was gained in reference to the operation by waiting until the bladder was greatly distended, because this facilitates the operation, and removes all risk of wounding the peritoneum, inasmuch as this important serous membrane is pushed far beyond the seat of the puncture in proportion as the bladder becomes distended. It is also a point of great interest to know that in such cases, when all tension and irritation are removed by the drawing off of the urine through the new and artificial channel, the breach in the urethra is speedily repaired, and the urine in a few days passes through it. The relief is so complete where the bladder is punctured that some instances are on record in which patients have refused after many years to have the canula removed except for the purpose of being cleaned, regarding it as a safety pipe not to be lightly relinquished: I alluded to cases of puncture above the pubes.—*Lancet*, Nov. 14, 1863.

New York Pathological Society.

REMOVAL OF AN INCH AND A HALF OF COMMON CAROTID ARTERY
FROM THE SUBSTANCE OF A CANCEROUS TUMOR—LIGATION OF
JUGULAR VEIN—RECOVERY OF THE PATIENT.

Dr. Conant exhibited an inch and a half of the common carotid artery of a gentleman 70 years of age, residing in New Hampshire. The patient, about two years ago, had suffered from a carbuncular inflammation of the right side of the neck, continuing for several months. Finally the diseased parts healed over, though it left the patient in rather feeble health. A few weeks after a little tumor showed itself on the right side of the neck, and appeared to be merely one of the enlarged cervical glands. This tumor continued to increase in size for nearly eleven months, when Dr. C. saw the

case. He, however, merely prescribed an anodyne application, and some internal remedies. A few weeks subsequent to this the tumor seemed gradually to disappear. Indeed, for some months it was almost entirely gone, when all of a sudden, during the last spring, it began to increase in size more rapidly than before, and on the 13th of June, when the patient was again seen, very strong fears of the existence of a malignant element in the tumor were entertained. The mass extended so far downwards that it gave rise to symptoms of pressure on the brachial plexus of nerves. In the course of the next five weeks the pain in the arm gradually increased, and superadded to this was considerable pain at the side of the neck. This pain had become so severe that, in order to obtain sleep at night, he was compelled to crowd his finger underneath the tumor and above the clavicle, in order to remove pressure from the nerves. By the 15th of July the tumor had increased so much in size as to fill a pint bowl. The trachea was crowded an inch to the left of the median line, the sterno-cleido mastoid muscle was thrust forward, the anterior edge of the trapezius was dissected up, while the lower portion of the tumor was fastened down against the upper portion of the clavicle. The patient being very anxious for an operation, and he being in a condition to warrant some surgical interference for his relief, Dr. C. consented. After the administration of ether an incision was commenced on the posterior part of the cleido-mastoid, and carried to the clavicle, then along the clavicle to the trapezius. The flap being turned up, the tumor was perfectly smooth. The inferior and posterior portion of the tumor was readily enucleated, but while dissecting underneath the sterno-cleido mastoid muscle it was found that the mass of disease had surrounded the common carotid artery and jugular vein. It was also found, in dissecting the upper portion of the tumor, that the parts were plentifully supplied by branches of the carotid; this was firmly ligatured. The diseased mass was then gradually sliced down until the jugular vein was reached, when it was found to be full of matter, and hard. It was then discovered that the ligature had included the vein as well as the carotid and its branches. The artery at the lower part of the tumor, about an inch and a half below this point, appearing to be very fragile, a second ligature was applied. As much of the tumor was removed, by slicing, as could be done, without taking out its intermediate portion, leaving artery and vein intact, surrounded by a small

portion of tissue. The case progressed very well, subsequent to the operation, so that at the end of three weeks he was able to go alone to his barn and attend to minor affairs about the farm. At the end of five weeks the wound had entirely healed, except at the point where the ligature came through. The upper ligature had not come away, and in withdrawing it Dr. C. brought with it that portion of the vessel ($1\frac{1}{2}$ inch) included originally between the ligatures. The patient at last accounts was doing well, though there was still considerable discharge from the wound. The cervical glands again show a tendency to enlarge. The tumor was cancerous.

Dr. Eliot asked if it were usual for malignant tumors to decrease during any particular stage of their existence.

Dr. Conant replied that such was so unusual that in the instance referred to he was inclined at one time to the opinion that the disease was not of a malignant character.

Dr. Clark remarked that vascular malignant tumors were very apt to vary in size at different periods, according to the amount of blood they circulated. In this connexion he referred to a case of cancer of the tongue, which was shown him some years ago by Dr. Buck. At one time the tumor decreased so markedly in size that Dr. Buck was inclined to give up his diagnosis, but in the course of a week after the disease again took on a very rapid growth. Dr. Clark examined the tumor microscopically and proved it to be of a cancerous character.

DOUBLE AMPUTATION.

Dr. Conant related the case of a severe rail road accident, which occurred on a train on which he happened to be a passenger. The patient was a newsboy, who fell from the train, and two cars passed over both his legs, severing one completely, and leaving the other hanging by a small strip of flesh. He performed a double amputation, one at the junction of the upper and middle-thirds, and the other a little lower down. With the exception of the occurrence of secondary haemorrhage from the detachment of the ligature, by another surgeon two days after, the patient did well. He merely related the case for the purpose of illustrating how important an operation could be performed by instruments which were carried in a case that could easily be placed in the coat-pocket. The cutting was supplied with an adjustable handle, and all the other required

instruments were packed away in the smallest conceivable space. He had devised the case for the purpose of operating at the Dispensary.

CASE OF TREPHINING.

Dr. Conant also presented a small portion of the skull of a patient whom he trephined under the following circumstances. Happening to be among the Adirondack Mountains, he was requested to see a young man who had sustained a severe injury of the head, and a fractured thigh, by being thrown from a wagon. For seven weeks the patient had lain in a partially unconscious state. The thigh had not united, but around the seat of the injury, an abscess had formed, which was constantly discharging a great quantity of matter. The patient would seem to notice to a slight extent what was going on around him, and would take up a word from a question that would be asked him, and repeat it over and over again, each time louder, until he would be apparently exhausted. His hearing was so acute that he would even catch at whispered words in the same manner. Dr. C. concluded from this circumstance that the grey substance of the brain was affected rather than any other part. On examination at the seat of the injury no lesion of the skull could be detected; still, the friends being anxious for the operation, Dr. C. consented to perform it. Having no trephine at hand he used a chisel and mallet for the purpose, carefully cutting out a small button of bone.

There was nothing particularly noticeable about the dura mater, except, perhaps, that it seemed as if it had shrunk away, notwithstanding there were evidences of the existence of serum underneath. Dr. Conant in this connexion mentioned the fact that he had witnessed a post-mortem examination in a case of typhoid fever, by Mr. Laycock of Edinburgh, in which this peculiar symptom of repeating words was a distinct feature, and that the gentleman maintained that it was due to trouble at the base of the brain, in the floor of the fourth ventricle. At the autopsy Mr. Laycock found a granular condition of the living membrane of the iter a tertio ad quartum ventriculum.

Dr. Clark thought that such a point was a little too finely drawn.—*American Med. Times.*

[From the American Medical Times.]

Paracentesis Thoracis in Empyema. By E. P. BENNET, M.D.

As there is considerable difference of opinion in regard to the deleterious influence of the air when admitted into the pleural cavity, I send the report of two cases of paracentesis thoracis for empyema. The first case was of a boy of about eight years of age, who had suffered from pleuro-pneumonia. Paracentesis was performed, and between one and two pints of pus discharged. No precautions were taken to prevent the admission of air into the pleural cavity, and it entered freely. A second puncture was made about a week later, when another pint was evacuated; the opening so remained, and for several days the air passed freely out and in at every expiration and inspiration, yet no evil consequences followed, and the patient made a good recovery. The second was a child, eighteen months old; the case was a severe one, and when, to all appearance, the child was in articulo mortis, I punctured the chest, and discharged a pint of thick pus. The puncture did not close; the air passed freely out and in for several days; the child immediately improved, and finally recovered, to the utter astonishment of many who saw him. I have often punctured the chest for empyema, and have always found that when the opening did not close up, and air was freely admitted into the pleural cavity, the patient did best. Hence, I am led to conclude that the fears of the profession on this subject are entirely groundless, and that all the instruments for withdrawing the fluid without the admission of air are perfectly superfluous. This opinion is not based on the result of a single case, but of many cases during a series of years.

DANBURY, CONN., Jan. 5, 1864.

Hygrometricity of Confined Places.—Gen. Morin, who has much occupied himself with improvements in the ventilation of public edifices, in a note addressed to the Academy of Sciences, treats of what he terms the "hygrometricity" of confined places. Much struck with the importance which the English engineers and authors attach to the imparting to the air employed for ventilation, whether heated or not, a certain amount of moisture, he was induced to in-

vestigate whether the salubrity of such air might not be due in some measure to the development of a certain amount of electricity by the passage of the air through the vaporized water (as is the case with regard to dew and rain during storms,) giving rise to the production of free oxygen (*oxygène actif*) If this, or some analogous modification, can be shown to take place, we have placed in our hands a simple, efficacious, and economical means of purifying the air of inhabited places, especially in summer—air containing free oxygen possessing in a high degree the property of burning certain miasmata and emanations from bodies in a state of putrefaction. The General accordingly instituted some experiments in order to ascertain whether the dispersion or solution of a certain quantity of sprayed water in the air sensibly modified its electrical condition. The results show the extrication of free oxygen and the subsequent or concurrent formation of an acid. As both the oxygen and the acid, probably a nitrous compound, possess the property of destroying putrefactive emanations, their presence sufficiently proves that the vaporization of water in air, besides the increase of moisture and depression of temperature which it gives rise to, may exert an action on the animal economy and upon the air of habitations deserving the attention of sanitarians.—*Med. Times and Gaz.*, Nov. 21, 1863.

Marriages of Consanguinity.—M. Seguin denies that marriages of consanguinity have necessarily a tendency to produce diseased offspring. He relates the results of ten marriages which have occurred between his own family and the family of Montgolfier. Eight of these marriages were between cousins-german, and two between uncles and nieces. Between 1812 and 1858, sixty-one children have issued from these unions, of whom forty-six are alive. No case of deaf-and-dumbness, of hydrocephalus, of stammering, or of six fingers on the hand, has been observed among them. M. Seguin concludes that, when there exists any constitutional tendency to disease in a family, the tendency to its development is increased in the offspring by consanguineous marriage; but that, in alliances between members of a family endowed with a good constitution, there will be augmentation of the vital forces in the offspring. This is, in fact, just what is observed by animals

whose breed is improved by man. M. Flourens remarked on the subject, that it is always well to study long before publishing, and that nothing has hitherto been advanced on the subject of consanguineous marriages worthy of serious consideration.—*Brit. Med. Journal*, Sept. 19, 1863.

Ligation of the Vena Porta and Persistence of the Biliary Secretion.—E. A. Chassagne contends (*Thesis*, Strasbourg, 1860) that the material for the formation of bile is furnished by the hepatic artery, not by the vena porta. He adduces cases (observed by Abernethy, Wilson, Lawrence, Broc,) in which the secretion of bile was normal, although the portal vein did not supply the liver, but went directly to the vena cava, also, cases of obliteration of the portal vein in men without disturbance of the biliary secretion. He then refers to Oré's experiments of which he was a witness, and also communicates four experiments by Bernard on dogs, in which the vena porta was ligatured without disturbance of the biliary functions.—*Ed. Med. Journ.*, Oct. 1863.

Sir Benjamin Brodie's Works.—Messrs. Longman are about to publish a complete edition of the works of Sir. Benjamin Brodie, including his papers scattered in journals, etc. This edition will also contain some remarks on surgical cases upon which Sir. Benjamin Brodie was engaged at the time of his death. The work will be edited by Mr. Charles Hawkins; and is to be accompanied with an autobiographical sketch of Sir Benjamin Brodie.—*British Med. Journal*, May 16, 1863.

The Chair of Chemistry at Berlin, also that at Bonn, have been offered to Dr. Hofmann, of London. The University of Bonn propose to place £20,000 at his disposal for the establishment of a laboratory.

O H I O

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Original Communications.

POISONING BY STRYCHNINE.

Court of Common Pleas of Union County, Ohio, September Term, (Adjourned Session in November) 1863. [Before Wm. Lawrence, Judge.] State of Ohio vs. Mary Freet and Lothrop Converse. Reported by Hon. WM. LAWRENCE, Judge of the Court of Common Pleas of the 3d Judicial District of Ohio; and T. G. WORMLEY, M.D., Professor of Chemistry and Toxicology in Starling Medical College, Columbus, O.

The first count of the indictment reads thus:

THE STATE OF OHIO, } ss.
UNION COUNTY, }

Court of Common Pleas within and for the County of Union, in the State of Ohio, of the term of March, in the year of our Lord one thousand eight hundred and sixty-three.

The Jurors of the Grand Jury of the State of Ohio, duly elected, impaneled, sworn and charged, to inquire of crimes, offenses and misdemeanors committed within the body of the county of Union aforesaid, in the State of Ohio, in the name and by the authority of the State of Ohio, upon their oaths, do find and present that Mary Freet and Lothrop Converse, late of the county of Union aforesaid, in the State of Ohio, contriving and intending, one William Freet with poison, unlawfully, feloniously, willfully, purposely, and of their deliberate and premeditated malice, to kill and murder, on the thirteenth day of February, in the year of our Lord one thousand eight hundred and sixty-three, with force and arms, at the county of Union aforesaid, in the State of Ohio, unlawfully, feloniously, willfully, purposely, and of their deliberate and premeditated malice, a large quantity, to-wit: four grains of a certain deadly poison called strychnine, did administer unto the said William Freet, with the intent then and there, that he, the said William Freet, should then and there take and swallow down the said strychnine into the body of him, the said William Freet; they, the said Mary Freet and Lothrop Converse, then and there, well knowing the said strychnine to be a deadly poison, and the said strychnine so administered unto him, the said William Freet, by the said Mary

of the Act, containing the names of the jurors. The names should be drawn from the box because of what is said in the last clause of section 8 of the Act.

The Prosecuting Attorney cited *Forsythe v. State*, 6 Ohio R. 19; *Henly v. State*, 6 Ohio R. 399.

By the Court—WM. LAWRENCE, J.: The practice adopted in organizing the Grand Jury is that which has uniformly prevailed. Its correctness is directly and unequivocally sustained by a decision of *Ranney and Caldwell*, Judges, holding the Supreme Court on the Circuit in Logan County, June term, 1851, *Jones v. State*, 8 Western Law Journal, 508.

The Act of 1831, relating to Juries, as amended March 31, 1859, contains these provisions :

“SEC. IX. That when a sufficient number of grand jurors shall not appear, who shall have been drawn and summoned agreeably to this act, before either of the courts at their stated term, or, if it should so happen that all the grand jurors, summoned as aforesaid, shall fail to attend, it shall and may be lawful for the court, in either case, to order the sheriff, or other officer, to summon from among the bystanders, or neighboring citizens, so many good and lawful men as are necessary to form and complete the panel of the grand jury, or to issue a special *venire facias* to the sheriff, commanding him to summon the persons therein named to attend forthwith to serve as grand jurors.

“SEC. X. That any grand juror may be discharged by the court for misbehaviour, or on the challenge of the prosecuting attorney in behalf of the state, on good cause shown. And if any person, not having the qualifications hereinbefore specified, shall be impaneled as a grand or petit juror, it shall be a good cause of challenge to such juror, who shall be discharged on the same being verified according to law, or on his own oath or affirmation in support thereof.

“SEC. XVI. That when a grand or petit jury shall be selected, drawn, or summoned contrary to the provisions of this act; or where the sheriff, or other officer, in executing the writ of *venire facias* to him directed, shall not have proceeded as hereinbefore prescribed; then, and in either of those cases, the whole array of the jury may be challenged and set aside, and a new *venire facias* awarded, returnable forthwith, in the same manner as if the whole number of grand or petit jurors had failed to attend the court, or had been challenged for cause and set aside by the court.”

Assuming for the present the array was properly set aside, then the *venire* was properly issued for the new grand jury. In every

court wherein the common law prevails, when the court, by its common law or statutory powers, is authorized to issue a writ, it is prepared and signed by the Clerk under seal, and that is the evidence that it is issued by the clerk. Now, as the statute requires this venire to command the sheriff "to summon the persons therein named," the practice is, and the law requires the Judge to furnish or direct what names shall be therein inserted, and the writ is evidence that this has been done. It is urged that if this is all true yet the names must be drawn from the jury box, because the 8th section of the jury statute declares :

"And at the close of any court, the names of all such persons as shall have served on the jury at that term, shall be taken out of the box and destroyed."

This relates only "to such persons as shall have [been drawn from the jury box and] served on the jury," for no others could "be taken out of the box and destroyed."

Could the court properly set aside the *array* ?

The statute requires that the jurors shall have the qualification of electors—sec. 1. One juror was "*selected, drawn and summoned*" who was not an elector, and he could not, therefore, properly serve. Now, it may be that the 10th section would authorize the court to discharge that juror. It provides that "if any person not having the qualifications hereinbefore specified [of an elector] shall be impaneled as a grand or petit juror, it shall be a good cause of challenge to such juror, who shall be discharged."

But as this relates to *all* jurors who are "*impaneled*," it gives the court power to discharge *jurors who have not been "selected, drawn or summoned"* at all, as, for instance, the large number of jurors who are *talesmen*—called by the sheriff without a venire, without being drawn from the box—*bystanders*, to fill the places of absent jurors on the grand and petit jury.

Thus, section 8 provides :

"And in case there shculd not, by reason of challenge or otherwise, be a sufficient number of jurors present to make up the panel, the sheriff shall summon a sufficient number of talesmen to make up the deficient number.

And there are other provisions for calling *talesmen*. But if section 10 did authorize a challenge of *one* disqualified juror, it would not exclude another statutory authority to challenge the whole array. Sec. 9 authorizes *two* modes, either one of which may be adopted in selecting a whole jury, and why may not two modes of making up a jury exist when there is but one disqualified juror.

If the statute gives a clear right to challenge the array in the case under consideration, then it might well be argued, perhaps, that the 10th section *should be limited to another class of cases*—to *talesmen* jurors—to jurors “impanneled” *only*, as the section says, but not to other jurors, “selected, drawn and summoned.”

The 9th and 16th sections, taken together, show very clearly that the challenge to the array was authorized. The latter section treats the jury as an *entirety*.

Section 16 declares “that when a grand or petit jury shall be selected, drawn, or summoned, contrary to the provisions of this act, * * the whole array of the jury may be challenged.”

That is, when in any respect, as to any juror, there is error in the selection, drawing or summoning, the array may be challenged.

It can scarcely be said that this grand jury was *selected* according to the act, for the *selection* included a man not qualified. And, in such case, this section, *by its reference to the amended section 9*, authorizes a new *venire*.

Section 9 would seem to authorize the Court to fill up a *part* of a jury when all do not appear, by ordering a *venire* or directing the sheriff to summon *talesmen*. And it is claimed that by its provisions the place of the disqualified juror might have been filled. If that be so, it does not exclude the right to set aside the array as authorized by section 16.

But section 9 has no reference to the case. It only applies to the case where a *part* of a *legal jury*, “drawn and summoned agreeably to this act,” as it declares, and to cases where “all the grand jurors summoned as aforesaid,” fail to appear.

It might apply, perhaps, to the case where the whole grand jury

"summoned" failed to appear, whether legally "drawn and summoned" or not, but its application to cases where only a *part* appear, is to juries "drawn and summoned agreeably to this act."

When the act was originally passed, section 9 made no provision for a special *venire*, and, of course, there could not then be a special *venire* under section 16. But section 9 was amended March 31, 1859—56 Vol. Stat. 95—so as to authorize a *venire*.

It cannot be doubted but this also *enlarged* the authority conferred by section 16, so as to authorize a special *venire*. The amended section takes its place in the State as a part of it. *Ludlow v. Johnson*, 3 Ohio R. 572; *Ohio Const.*, Art. 2, Sec. 16; *McKibben v. Lester*, 9 Ohio St. R. 627; 1 Bishop Cr. Law, Sec. 95 n.; see *Stall v. Macalister*, 9 Ohio R. 19; 1 Curwen Stat. 17.

It may well be doubted whether, if the order setting aside the array was irregular, it could effect the new grand jury or indictment found by them. They were a legal grand jury. The action of the Court in ordering them remains in force, unreversed, and its correctness may not be collaterally inquired into. *U. S. v. Wilson*, 6 McLean, 604; *Stewart v. State*, 1 Ohio St. R. 68; *State v. Brooks*, 9 Alab. 9; 7 S. & M. 58; *Rafe v. State*, 20 Geo. 60; *Dowling v. State*, 5 Smedes & Marsh, 664; *Haight v. Holley*, 3 Wend. 258; *People v. Jewett*, 3 Wend. 314; *Anderson v. State* 5 Pike, 444; *Gibson v. Com.*, 2 Virginia cases, 111; *Bellair v. State*, 6 Blackf'd, 104; 6 Wedell, 96, 98; see *Judge v. State*, 8 Geo. 173; *Cole v. Perry*, 6 Cow. 584; *Colt v. Eves*, 12 Cown. 243; but see *State v. Hardin*, 2 Rich. 533; *U. S. v. Cropper*, 1 Morris 169; *State v. Conner*, 5 Blackf'd, 325.

The Court has undoubtedly power to discharge a grand jury and summon a new one, and this may be regarded as such. *Hunt v. Scobie*, 6 B. Mon. 469; *Straughn v. State*, 16 Ark. 37; *Findley v. People*, 1 Mann. (Mich.) 234.

It has been held that such formal objections should be taken at the *first term*. *State v. Claussa*, 11 Alab. 57; *State v. Seaborn*, 4 Dev. 305; *State v. Freeman*, 6 Blackf'd, 248; *Vattier v. State*, 4 Blackf'd, 72; *Dixon v. State*, 3 Clarke, Iowa, 416; *State v. Hinckle*, 6 Ib. 380.

Error does not generally lie upon mere matters of practice in the inferior court. 3 Peters, 445; 4 Ohio R. 135.

Motion to quash overruled.

The defendant being arraigned pleaded NOT GUILTY. A jury was duly impaneled and the case proceeded to trial.

During the trial a question was made whether a physician or chemist could give his professional opinion as an expert as to the effect of poisons, the symptoms it produces, and the appearances which follow after death from it, except from *actual experience*.

By the Court, WM. LAWRENCE, Judge:—A chemist or physician may give his professional opinion, though it “may be in some degree founded on scientific books” of acknowledged standard authority. It is not possible that any one man can, from actual observation and experience, know all that is contained in the scientific books of a profession.—Abercrombie on the Intellectual Powers, p. 47. These are the accumulated learning of ages, the combined results of the experience and observation of many scientific men. The lectures of eminent men at medical colleges, of established reputation, impart vast learning in connection with that of books. It cannot be that all this is to be lost in the investigation of truth in Court. Elwell on Malpractice and Medical Evidence, 331; 1 Greenleaf Evidence, Sec. 440; *Collier v. Simpson*, 5 Car. & Payne 73; *Cocks v. Purday*, 2 Car. & Kirw. 270; *Bowman v. Woods*, 1 Iowa R. 441; *May v. Ohio*, 14 Ohio Rep. 461; Smith’s Analysis of Medical Evidence 126; Guy’s Medical Jurisprudence, 20. A professional witness may, therefore, state his opinion, though not derived from actual experience. The want of such experience goes to the jury as affecting the value of the testimony.

During the progress of the trial, the State gave evidence tending to prove that William Freet resided with his wife (the defendant), their little son, about four years of age, and John Freet, an elderly man, the father of William Freet, in a house in Unionville, Union county; that on the 4th of February, 1863, Freet said to his wife at breakfast, that his coffee was bitter, and he did not

drink it; that the coffee in the cup of Freet's father was not bitter; that on the evening of the same day Freet, his father and defendant were setting at the table, at which corn-meal mush and milk were prepared for supper; that at supper Freet said to his wife his mush and milk were so bitter he could not eat it, and did not, but left it on the table; that each one had his usual place of sitting at the table; that the mush was all on one dish and the milk in separate cups, and that the father's milk was not bitter, though the mush was bitter with salt; that on the next morning a neighbor came into Freet's and said their cat was dead; that subsequently the cat was found dead, the contents of the stomach analyzed and contained strychnine and small roundish lumps of mush; that defendant did the cooking for the family, consisting of Freet, his wife, the little son, four years of age, and Freet's father; that on February 13, 1863, Freet was unwell, though able to be out in the village; that a physician prescribed for him calomel and dover's powders, mixed in six powders, and a solution of tartarized antimony, the calomel and dover's powders to be given once in three hours, commencing at 3 P. M., and the solution between times; that Freet took the medicine as prescribed, his wife giving the powders at 3, 6 and 9 P. M., in wafers of dough, prepared by her; that soon after the powder which was taken at 9 P. M., Freet asked his wife for something to eat, when she prepared tea with toasted bread in it; that in about half an hour Freet began to scream and continued in convulsions for about three-quarters of an hour, when he died, about fifteen minutes after 11 P. M.; that during the evening, and until after the spasms commenced, no person was known to be about the house except Freet, the deceased, his father, the defendant, and the little son of Freet and wife; that the physician prescribed the medicine stated for what seemed to be indications of pneumonia; that a *post mortem* examination revealed no indications of pneumonia, but a chemical analysis of the stomach, heart and bladder, shows the presence of strychnine, by which eighteen one-hundredth parts of a grain of strychnine was obtained from the stomach alone; that the three unadministered

powders, and the solution remaining, contained no strychnine, and that the medicine presented by the physician contained none; that in January, or early in February, 1863, the defendant, Converse, and Mary Freet were in a back room of her house alone, when she asked Converse if there was much talk about them. He replied to her, there was not, except by two women in the village, and that Converse then said to her she should consider him the best friend she had in the world, and that they would try and enjoy themselves in some way; that Converse and his wife, and Freet and his wife were together on one occasion that winter, when Freet requested Converse not to visit his house, and Converse said to Freet he should have no cause to find fault with him thereafter; that a short time prior to the conversation between Converse and Mary Freet, a witness saw her sitting on his lap when they were alone.

BOWEN, for defendant, moved to rule out this last statement of the witness. He argued that it only shows that defendant has relaxed her hold on propriety or morality and seeks a conviction for that reason. It would be competent if there were first evidence of a conspiracy to murder Freet.

VANDEMAN, for State. We state professionally that we expect to show a conspiracy between Converse and defendant to poison Freet. It is competent also as evidence of a motive which defendant had to poison her husband.

By the Court—I instruct the jury that this evidence is not to be considered for the purpose of inducing a conviction because defendant may have been guilty of an impropriety or immorality. If she has been so guilty, it is not to be inferred that because of it she may be guilty of murder. *Farrer v. State*, 2 Ohio St. R. 54. It is not evidence to prove the *corpus delicti*. Note 288, to page 438, Phil. Ev.; C. & H. Notes, 474; 2 C. H. Rec. 143, per *Livingston, J.*; 3, Stark Ev. 491—2 n. But it is competent and is to be considered by the jury for the purpose of determining whether she had a *motive* to make way with her husband. It is to be considered as evidence tending to show an alienation of her affections

from her husband by having an affection for Converse; and so far as the jury may find this to be so, they will determine how much weight may attach to it as proving a motive to destroy William Freet if he stood in the way of her enjoyment of the society of Converse. *State v. Zellers*, 2 Halst. 220, 234; *State v. Teckell*, 1 Hawks, 210. It would be competent, also, if the foundation is laid to show a conspiracy between defendant and Converse to poison Freet. Wharton & Stille, Medical Jurisprudence, 714, 746; Wharton's American Crim. Law, sec. 635; *State v. Rash*, 12 Wedell, 382; *State v. Hendrickson*, tried 1853, Albany County, New York; *State v. Richardson*, tried in New Hampshire, 1860; *State v. Watkins*, 9 Conn. 47; *Johnson v. State*, 17 Alabama, 618; *Chapman's Case*, Wharton & Stille Med. Jurisp. 714; *Stout v. People*, 4 Parker Crim. R. (N. Y.) 71; *State v. Hinkle*, 6 Clarke Iowa R. 380.

The State then gave evidence of other acts of familiarity between defendant and Converse, including many and frequent visits to Freet's house.

The State proceeded with evidence tending to show: That the railroad train came into Unionville about 4 P. M., February 13; that about half past 4 of that day Converse went into Freet's house where Mary Freet was, and remained about 15 minutes; that about 8 P. M. Converse went across the street to Freet's house, opened the door, stood on the door sill, leaned part of the way in the house, staid about a minute and a half and left; that after the convulsions commenced, Converse, at the request of John Freet, who went for him, came to the house and applied water to Freet's head in the way of administering relief; that Converse went to Columbus on the morning of February 13th, and returned to Unionville on the 4 P. M. train. The State now offered to prove that Converse purchased strychnine at Columbus on the 13th of February.

BOWEN objects. It is only competent as evidence after a conspiracy is established between Converse and defendant to poison

William Freet. *Patton v. State*, 6 Ohio St. R. 467; *Fouts v. State*, 7 Ohio St. R. 471.

VANDEMAN—There is such evidence of conspiracy as renders the evidence competent, and it is proper to show that defendant had the means of procuring and did have strychnine. *Farrer v. State*, 2 Ohio St. R. 81; *Breese v. State*, 12 Ohio St. R. 155; *Preston v. Bowers*, 13 Ohio St. R. 13; Wharton's American Crim. Law, sec. 235, 1, 2; *Com. v. McLean*, 2 Parsons 368-9; *R. v. Parsons*, 1 W. Black, 392; *R. v. Murphy*, 8 C. & P. 297; *People v. Mather*, 4 Wendell, 229; *Den v. Johnson*, 3 Harrison, 87; *State v. Trexter*, 2 Car. L. Jour. 90; *R. v. Hammond*, 2 Esp. 718.

By the Court—The evidence is competent as tending to show that defendant had the means of procuring strychnine, and so is admitted. Its competency on the alleged ground of conspiracy need not now be decided.

The witness then stated that he sold Converse a drachm of strychnine in a drug store in Columbus, on 13th February, about noon, in a small phial.

The State then offered to prove declarations of Converse made at the time of buying the strychnine.

DELANO objects.

By the Court—As a part of the *res gestae* this evidence would be competent as showing the purpose of Converse, but not against defendant, unless upon the ground of a *conspiracy*. But how is the conspiracy to be proved? Is a case to be made beyond a reasonable doubt, or a *prima facie* case, or is it sufficient that there be evidence *tending* to prove a conspiracy? Is it for the court or jury?

It seems to me sufficiently settled that the question in the first instance is for the court; that it is sufficient if there be evidence *tending* to prove a conspiracy; that the jury must *review* the finding of the court, and reject the *declarations*, unless they find the conspiracy proved beyond a reasonable doubt. When there is such evidence tending to prove the existence of the conspiracy every act and declaration of each member of the confederacy,

after and in pursuance of the original concerted plan, and with reference to the common object, is, in contemplation of the law, the act and declaration of all. 1 Greenleaf Evidence, sec. 111, 160; Cases *Ante*. 2 Stark Ev., 263; Phil. & Am. on Evidence, 304; *Ross v. Gould*, 5 Greenl. 204; Voss case, 3] Leigh R. 769; 2 Pothier Oblig. 256 (294) App. No. 16; Grant's case, McNaly's Evid. 385. See *Spears v. State*, 2 Ohio St. R. 583, as to confessions whether voluntary or not.

Now, up to the time of the alleged purchase of strychnine, there is not, at all events, evidence so far tending to prove the conspiracy as to justify the admission of declarations then made. As this question is for the court in the first instance, it is in the discretion of the court to reject it until a foundation is laid more distinctly tending to prove the conspiracy.

It will be an entirely different question as to declarations *after* the subsequent occurrences of that day, and before the death, provided they are not narratives of past occurrences. Questions like this rest somewhat in the discretion of the court, and necessarily so, as the object is to enlighten the jury by evidence which may be of such value as to be proper to form the predicate of a verdict. *Gandolph v. State*, 11 Ohio St. R. 118; *Moore v. State*, 2 Ohio St. R. 500.

As against Converse, and as showing the operations of his mind, many subsequent acts and declarations might be competent.—*Ib.*

The State then offered evidence tending to prove that, on the morning after Freet died, defendant said, "physicians have been sent for to open Freet. All the people in the world cannot make me believe that Freet poisoned himself."

VANDEMAN for State.—We ask the Court to permit chemical experiments to be made before the jury, to show the tests of strychnine.

By the Court.—Questions of science go to the jury on proof of facts and the opinions of experts. But scientific experiments would not enlighten the jury, since they might not have the knowledge to understand them, and hence they might be misled thereby.

In the great Michigan cases for burning a railroad depot, &c., in which Gov. Seward was counsel, experiments were made before the jury with a wooden implement, to test its capacity to communicate fire, being similar to that by which the fire was alleged to have been communicated. But that was not a question of science.

Witnesses frequently make experiments to ascertain if a fact alleged to have happened, or an act charged to have been done, were possible; and these, under peculiar circumstances, go to the jury on proof. *Smith v. State*, 2 Ohio St. R. 516.

Such experiments, not involving abstruse science, might perhaps be made before a jury. As to *Smith v. State*, 2 Ohio St. R. 516, see Nash's Digest, 195. A contrary rule was held in North Carolina.

A witness for the State having testified to frequent visits of Converse to defendant,

DELANO for defendant, on cross-examination, asked the witness to state what Wm. Freet had said to Converse, in the way of requesting him to make provision for, and attend to the wants of his family in his absence.

COATS objected.

By the Court.—The evidence is competent, so far as it is information or solicitation on which Converse may fairly be presumed to have acted. If Mary Freet were attacked or even threatened with assault from a dangerous man, and if Converse were informed of it he might properly visit her house to warn her of danger. In such case, the information on which he acted, is original evidence tending to show the good faith and motive of his visit. I know the main fact in this connection is defendant's motive, but that is affected by the motive of Converse as it appeared or was imparted to her; and hence the information on which he acted becomes proper. 1 *Greenleaf on Evidence*, sec. 101.

If Converse were employed by written contract as the agent of Freet, to provide for and visit his family, the fact of the agency would manifestly be proper. Now, it can make no difference that the employment was verbal. *Com. v. Bradford*, 9 Metcalf, 268.

The defence gave evidence tending to show that John Freet, father of deceased, [who testified that the mush and milk was left on the table,] had said that William Freet had thrown his cup of mush and milk out, and that the cat ate it and the next morning was found dead ; that on another occasion John Freet admitted that Mary Freet had thrown the mush and milk into the slop-bucket, and that she had said the bitter taste in the mush was produced by hops boiled in the pot in which it was made ; that John Freet said the mush and milk put in the slop-bucket was fed to the cow ; that Freet said to Converse if he would agree to see to his wife, and get her wood, and corn for the hogs, and other things, he would be satisfied to go to the army ; and Converse agreed to do so ; and, subsequently, Freet did go to the army, from which he returned in November, 1862, and remained until he died ; that a witness purchased strychnine at Dunefees store, in Unionville, about six or eight weeks before Freet died, to kill rats at his granary near there ; that strychnine was used on other occasions that winter to poison rats about Unionville.

Saul Bland, a witness called and testified *for defendant*:

I reside in Pleasant township in this county. I was acquainted with Wm. Freet in his life-time. Have been acquainted with him three or four years. I can't tell when I last saw him, but it was only a few days before his death. I took dinner with him at his own house three or four days before his death. I knew he had gone into the military service. I shook hands with him and bid him good-bye when he started. At the time I took dinner with him, I had a conversation with him in regard to his returning to the service.

Question by defense.—What did he then tell you, in that conversation, about his intention to return to the army ?

Objected to by the State.

Thereupon counsel for defendant stated to the Court, that they expected to prove by this witness that Wm. Freet told the witness, at that time, that he would never return to the army—that he would die in his own house first, before he would go back.

WALTER H. SMITH, for defendant, cited Roscoe's Criminal Ev.

23 note; *State v. Crank*, 2 Baily, R. 66; Wharton's Am. Crim. Law, sec. 1043; Wharton on Homicide, 216, 226.

A party indicted for murder committed by violence, may show that deceased made prior threats which would induce defendant to believe his own life in danger. *Monroe v. State*, 5 Geo. 85; *People v. Shorter*, 4 Barb. 460. In a Pennsylvania case cited in Wharton on Homocide, 227, the general character of deceased as a fighting man was admitted, though not particular instances of violence. See *Gandolpho v. State*, 11 Ohio St. R. 114.

When the public prosecutor, on the trial of an indictment for the murder of the prisoner's wife, in the absence of direct evidence of the alleged murder, offered, with other presumptive evidence, testimony to prove that for some months before and down to the time of the alleged murder, an adulterous intercourse subsisted between the prisoner and a Mrs. B. It was held that such testimony was admissible, not to prove the *corpus delicti*, but to repel the presumption of innocence arising from the conjugal relation. *State v. Watkins*, 9. Conn. 47.

On the trial of a prisoner for the murder of his wife, proof that the prisoner, during the year preceding the homicide, applied to the mother of a single woman for permission to visit her daughter, and was denied it because he was a married man, is admissible, to show a motive for the commission of the crime. *Johnson v. State*, 17 Ala. 618.

On the trial of A. for the murder of B., proof that A. had before murdered one C., and that B. was a witness of the murder of C. by A., is admissible for the purpose of showing the motive that induced A. to murder B., viz: the desire to destroy the evidence of his previous crime. *Rex v. Cleves*, 19 Eng. Com. Law. See, also, *Stout v. The People*, 4 Parker C. R. (N. Y.) 71; *State v. Hinkle*, 6 Clarke (Iowa) 380.

By the Court—It seems difficult to find any direct authority upon the question now made. There may be authorities indirectly applicable. Wharton on Homicide, 99; *Com. v. Bowen*, 3 Mass. R. 359; 2 Wheeler C. C. 321; 1 Greenleaf on Evidence, sec. 102, 108; *Reshton v. Nesbitt*, 2 M. & Rob. 252; Roscoe Cr. Ev. 23; *State v. Crank*, 2 Bailey, 66; *McLawney v. Coleman* 2 Stark R. 191; 1 Barn. & Auld. 90 S. C.; *Willis v. Barnard*, 8 Bing. 376; *Elsam v. Faucett* 2 Esp. 562; *Winter v. Wroot*, 1 M. & Rob. 404; *Gilchrist v. Bale*, 8 Watts 335; *Thompson v. Freeman*, Skin. 402; *Wetmore v. Mell*, 1 Ohio State R. 26; *Barthelemy v. The People*, 2 Hill N. Y. 248, 257; *Ridley v. Gyde*, 9 Bing. 349; *Boyden v. Moore*, 11 Pick. 362; *Walton v. Greene*, 1 C. & P. 521; *Reed v.*

Dick, 8 Watts 479; *O'Kelly v. O'Kelly*, 8 Mete. 436; *Stiles v. Western*, R. R. 8 Mete. 44; *Doe v. Webber* 1 Add. & Ell. 773; *Rawson v. Haigh*, 2 Bing. 99, 104; *Marsh v. Davis*, 24 Vermont 363; *New Milford v. Sherman* 21 Conn. 101; *Ambrose v. Clendon*, Cas. Temp. Hardw. 267.

It is, of course, not doubted that if William Freet committed suicide, without the procurement of defendant, that would be a defense in this case. Whatever is competent evidence as tending to prove that, is admissible. Now, if Freet appeared in a gloomy mood, dispirited, and declared that he was weary of life, that would be competent evidence. Thus, it is said :

" Whenever the bodily or mental feelings of an individual are material to be proved, the usual expressions of such feelings made at the time in question, are also original evidence. If they were the natural language of the affection, whether of body or of mind, they furnish satisfactory evidence, and often the only proof of its existence. And whether they were real or feigned, is for the jury to determine." 1 Greenl. Ev. sec. 102.

And, says Greenleaf :

" So upon an inquiry as to the state of mind, sentiments or disposition of a person at any particular period, his declarations and conversations are admissible." Sec. 108, and see Greenl. Ev. sec. 110, note 2; *Bird v. Hueston*, 10 Ohio St. R. 418.

Similar evidence was admitted a few years since in the case of a woman tried in the Common Pleas of Miami county, for the murder of her husband by poisoning, though I do not know the circumstances under which it went to the jury—that is, that deceased made his will, and said he did not expect to live long, was received. In the absence of any case in point I will admit the evidence, but will feel at liberty to review this opinion whenever the question may hereafter arise. *Rex v. Tawell*, cited in Wills on Circumstantial Evidence, 180, 181; *Regend v. Johnson*, 2 C. & K. 354; *Little v. Loby*, 2 Greenl. 242; *Kimball v. Morrell*, 4 Greenl. 368; *Gorham v. Canton*, 5 Greenl. 266; *State v. Powell*, 2 Halst. 244; *Bennett v. Hethington*, 16 Serg. & Rawle. 193; 1 Stark Ev. 53. " It has been suggested by a learned writer that where a person comes forward and confesses the crime of which another is accused," such confession is admissible. 3 McCord's R. 332, note

But this has been denied as law. *Com. v. Chabcock*, 1 Mass. R. 144, note 203, top 336; Phil. Ev. P. 1 C. & H. notes 320.

The witness then stated that William Freet said in answer to a question when he was going back to the army, "I am not going back at all." Witness asked, "How are you going to help your self?" Freet said, "I am going to help myself—I will die in my own door yard before I will go back;" that he received a letter from the Captain of his company urging him to return to the army; that he was informed by a Lieutenant of his company that the Attorney General of Ohio and counsel had said that he must return to the army, and that he turned pale when this was announced to him. Freet said he had never been mustered in nor sworn in, and had not drawn any pay. There was other evidence that he had never been mustered or sworn in.

Defendant gave evidence to show that Converse, on 13th February, had business connected with a garnishee proceeding in Columbus on that day, and went there to see to it; that another druggist, about that time, sold strychnine to a person who in some respects resembled Freet, in others not, but who did not resemble Converse.

That defendant's general reputation and character as a peaceably disposed woman was good.

Freet was aged about 27—defendant near the same age.

The evidence relating to the symptoms, post mortem appearances, and chemical examination, was as follows :

Wm. H. Cartmell—I am a physician; was acquainted with Wm. Freet; saw him last on the 13th Feb., 1863; was called to see him at his house about half past nine o'clock in the evening, as near as I can guess. I found him prostrated; lower extremities in a very rigid condition; hurried respiration; difficulty of breathing; his arms thrown over his head and clenched to the banister of the bed. He appeared to be very nervous; much paralyzed; was jerking; his head was hot; his breast and head covered with profuse perspiration. He conversed freely; talked rational, and called for help, said he was going to die; wanted

help. I tried to give him some medicine; when I went to raise his head, he said not to touch it as he did not know whether he could swallow, but he would if he could. He then went into a severe spasm or convulsion—jerking—which lasted from five to ten minutes I think. He then became quiet and conversed rational. I asked him if he was not better, and he said not; that he thought he was going to die; was taking lock-jaw. I asked him if he could take more medicine. He said not; he could not swallow. For a few moments he was quiet and then went into another convulsion, with his head thrown around, and said, "that is the matter of the horse—I am gone." He then went into another convulsion and died quietly; the last convulsion was easy. I think he died in from three quarters to one hour after I first saw him. There was no time-piece in the room. Freet's father was there administering cloths of cold water to his head. He repeated several times, the remark that he was going to die; at least five or six times. Several persons were in the house. Mrs. Freet, the defendant, was there, and Mrs. Holycross was there. The defendant put some cloths to his feet; he said they eased him he thought. He wanted the cloths as hot as they could be borne. Their little boy was lying on a bed in the room. Some one said to the defendant, Mary, Mr. Freet is dead; she replied, is he? She was lying on the foot of another bed; she was there for some fifteen minutes before he died. His head was thrown back as far as he could get it. From the symptoms, and what I saw at the post mortem examination, I think he came to his death by poison.

Aaron D. Doolittle—I knew the deceased for a year or two; saw him alive on 13th Feb., 1863, about 10 o'clock A. M.; he was then on the street. 'I was called about 10 o'clock that night to lay him out; he was dead. His body was stiff, and in such a condition as I never saw a human body before. His fingers were so stiff that I raised up the body before they would yield. The body was warm. When I first saw him he was lying flat upon his back; he was lying very straight, but his back was bent a little.

Martin Pyers—I saw Wm. Freet about 9½ o'clock the night he died. He was in great agony. He died in from three quarters to an hour after I first saw him. He did not want me to touch his feet. He said, "this puts a man in mind of dying." He had several spasms. The last one he had was very light; the last words he spoke were, "I am dying." When he was dead his body was cold and stiff as a log.

John Freet—I am the father of the deceased. The last time I saw William alive was on the 13th Feb., 1863, at his own home; he was lying on a bed dying. I went to the house about 9 o'clock that evening; he was sitting on a bed playing with his child. He took a dose of medicine about 9 o'clock; the defendant gave him the medicine, and a short time afterwards gave him a bowl of soup. I laid down and went to sleep. I think I had laid down about half an hour. The first I heard was a loud scream. I jumped to my feet and then heard another scream. I went to the bed and called to his wife to help me. I told him not to call so loud, it would arouse the neighbors. At this time the door opened, and some of the neighbors came in. He called for help, and called for a doctor. We had sent for Dr. Converse and Dr. Cartmell. He was in a spasm when Dr. Cartmell came in; the Doctor gave him some medicine. I went after Lothrop Converse. He died that night between 10 and 11 o'clock. During that day William had complained of pain in the back, shoulders and head. Dr. Converse was there late in the afternoon; he left some medicine for him; I did not see him take any medicine except what she gave him; I had lived there some two or three weeks. I saw defendant rolling out some dough, and asked her what she was doing it for; she replied that she was making some wafers to give William some medicine in.

On the 3d or 4th of Feb., at breakfast, William asked his wife if she had used all the coffee that morning, and said that his coffee was so strong that he could not drink it; that it tasted bitter; just like quinine. I said that mine tasted good. He said, if you

do not believe it just take the cup (which he handed to her) and taste it. She took the cup, and whether she tasted it or not I cannot say, but she handed it back to him, when he said, hand me a cup of water; he finished his breakfast with water. In the evening we had mush and milk for supper. The mush was put in a plate in the centre of the table, and a dish of milk was put at each person's place at the table. The third or fourth mouthful he eat, he said he could not eat the mush and milk, as it tasted so bitter. He eat no more, but got up and left the table. I remarked to him that he must have a singular taste; that this morning he complained of the coffee, and now of the mush and milk, and that I could not taste anything wrong, except the mush and milk was bitter with salt. No one except his wife prepared food for the family. We had a brindle cat about the house; she had black stripes, and was greyish between the stripes. I do not know what became of the cat, but heard a conversation between defendant and Mrs. Humpshire, when one of them remarked to the other that the cat was dead and stiff out by the side of the house. This conversation was on the morning after we had the mush and milk for supper.

Dr. Jeremiah Converse—I am a physician and surgeon. I was not acquainted with William Freet until about 12 hours before his death, when I received a call to visit him professionally. He was then laboring under what I took to be the premonitory symptoms of pneumonia. I considered it a very mild attack. This was on the 13th Feb., 1863, betwen 2 and 3 o'clock P. M. I prescribed for him six powders, each containing three grains of Dover's powder and one grain of calomel; one powder was to be taken every three hours, beginning at 3 o'clock. I also left him three grains of tartarized antimony, to be dissolved in six ounces of water; a portion of this solution was to be taken between each of the powders. Defendant asked me if it would be as well to give the powders in wafers; I told her it would. This is a very

common way of giving medicine. These wafers are made by taking flour and making a batter, and then dropping this on a hot flat-iron. None of the medicine that I prescribed was given in my presence. If a wafer is properly made, it entirely conceals the taste of medicine. I don't know but I said to the defendant that she might administer the medicine in water. I was not particular as to how the medicine was given. I simply consented to giving it in that manner. I told Wm. Freet that the medicine I left him was sufficient without any further visit. I suppose the wafer would retard the digestion of the medicine. The next time I saw him was about a quarter before 12 o'clock; he was dead. I made no examination of the body at that time.

The next time I saw the body was on the 15th inst., forty hours after death; we then made a post mortem examination. Externally there was ecchymosis of the skin, swelling of the face, neck and chest, and, more or less, of the whole body. The upper extremities were relaxed, but the lower extremities were rigid. The spine was curved; the toes were drawn back toward the body; the feet were concave; I cannot say positively as to the condition of the hands; the muscles of the neck were rigid; the stomach was in a healthy condition; the pyloric orifice was a little inflamed, but not sufficient, I think, to produce any serious difficulty; there was softening of the mucous membrane, but in other respects the organ was healthy. The contents of the stomach were small in quantity and had a tarry appearance. The heart was natural and in a healthy condition. The blood was in a fluid state and had a dark color. The bowels were in a healthy state, as also the bladder, which contained about two ounces of urine. The spleen was engorged with blood, but was healthy; the liver was in the same condition—it was engorged with blood; the lungs healthy and engorged, especially the lower portions. The brain was healthy, but there was a want of blood. All the blood found in the body was in a fluid state. The stomach

and contents were placed in a glass jar; the heart and some blood in another; and the bladder and its contents in another. These jars were then sealed, labeled and delivered into the hands of the coroner of the county. From the post mortem appearances, I should think that death was not produced by any ordinary disease.

Dr. T. J. Haynes—Have been a physician and surgeon for ten years. Was present at the post mortem examination of William Freet, February 15, 1863. There was considerable ecchymosis of the skin; body stiff; hands drawn in; toes drawn upwards; general tumefaction of the body; the neck and chest puffy; head laid natural; the lower extremities were stiff, but the arms relaxed. The bowels were healthy; the stomach contained a little thick liquid; the pyloric orifice was somewhat irritated, the cardiac not so. The stomach contained about two ounces of fluid. The stomach and contents were taken out and placed in a clean jar. Lungs engorged with dark liquid blood, but found no diseased action; the liver engorged with similar blood; the heart normal in size and collapsed, valves healthy; no blood in the heart, but the ascending vein had been cut. The kidneys and bladder were healthy; brain healthy, but there was an absence of blood in this organ.

Dr. Wm. Ballinger—I have been a physician for the last seven years. Saw the body of Wm. Freet on the evening of February 14, 1863. Saw three or four powders, which I judged to be a mixture of Dover's powder and calomel; I found them in Freet's house; took charge of them and delivered them to the coroner. I assisted to make the post mortem examination. All the internal organs examined were in a healthy condition. The blood throughout the body was of a dark color and fluid. The heart and its valves were in a healthy condition. There was an absence of blood in the brain, but the organ was healthy.

Wm. Cartmell—I am coroner for this county. Was present at the post mortem examination of the body of Wm. Freet; the jury was also present. The organs were placed in clean glass jars. I

carried the jars and their contents to Columbus, and there delivered them to Professor Wormley.

J. Humpshire—Saw Wm. Freet on the night of his death; he was very sick. He hallooed so that he could have been heard at a great distance. After death his body was perfectly stiff—so stiff that by raising a part of the body the whole raised.

Wm. Dunfee—About a week after the death of Wm. Freet, I found a cat in the alley back of his lot. I put the cat in a box and kept it some days. I helped Dr. Hamilton to cut the cat open and take out the internal organs.

Dr. I. N. Hamilton—About the 14th of March, 1863, I dissected a cat given me by Mr. Dunfee. The cat was of a greyish color, with black or brown stripes over the shoulder. I took out all the internal organs except the kidneys, and put them, with the blood, which was fluid, into a glass jar. I gave the blood no special examination, except that I know it was liquid. The cat was frozen stiff. I had seen Mrs. Freet's child playing with a similar cat. I delivered the jar to Prof. Wormley, of Columbus.

Prof. T. G. Wormley—I reside in Columbus, Ohio. By profession I am a physician and chemist. Have been Professor of Chemistry in Starling Medical College for the last several years. Have devoted the last ten or fifteen years to the study of chemistry; part of the time to the study of general chemistry, but the last several years to the special study of the chemistry of poisons. On the 16th of February, 1863, the coroner and prosecuting attorney of Union county, Ohio, called upon me at my laboratory and delivered to me these three jars. (The jars were here produced.) These contained different portions of animal structures, and some fluid. One of them contained a human stomach and from two to three ounces of thick fluid. Another contained a heart, together with a small quantity of blood. The third contained what appeared to be a human bladder, with a quantity of urine. These jars were all carefully sealed. I also received at the same time a

small package, which enclosed two papers, one of which contained a white powder; the other, three separate powders, having a brownish color.

Examination of the Stomach.—The stomach was removed into a large porcelain evaporating dish and cut open. The mucous membrane presented several patches of congestion; independent of these the organ appeared quite healthy. The liquid remaining in the jar was then decanted into the dish containing the tissue of the stomach. There was, in all, between two and three fluid ounces of liquid; it was thick and had a dark color. This mixture was then stirred with a few fluid ounces of pure distilled water. The mixture had a decided acid reaction. I then cut the tissue of the stomach into small pieces, then added about forty drops of pure acetic acid, and thoroughly stirred the mixture; then added several ounces of distilled water and a few ounces of pure concentrated alcohol, and again stirred. This mixture was then digested at a moderate heat, for about one hour and a half, allowed to cool, then strained through new and thoroughly washed muslin, and the solids upon the strainer well washed with water containing alcohol. This operation furnished about ten fluid ounces of highly colored, turbid liquid. This was several times strained, and ultimately furnished a clear colored fluid. All the solid matters, separated by these several strainings, were carefully collected and preserved for future examination, if necessary. The clear liquid was now concentrated to about four fluid ounces, and again strained to separate some solid matter which had separated during the concentration. It furnished a nearly clear liquid, which measured four ounces. I now tasted a *very small drop* of this liquid, but observed nothing except a very peculiar animal taste, which was so very offensive that the operation was not repeated. The four ounces of liquid were now concentrated on a water bath, then stirred with alcohol and the mixture filtered through filtering paper; this operation of concentrating and treating with alcohol

was repeated several times, when the liquid finally became clear and nearly colorless. It was then evaporated at a very moderate heat, on a water bath, to about two fluid drams; this was well stirred with about a dram of pure water, containing a few drops of pure sulphuric acid, and the mixture filtered.

The liquid thus obtained was rendered distinctly alkaline by means of a solution of pure caustic soda, and the mixture violently agitated for several minutes in a strong glass tube, with about twice its volume of pure chloroform. Any strychnine present in this mixture would now be dissolved by the chloroform; the object of the addition of the caustic soda was to set the strychnine, if present, free from its combination with the acids which had previously been added, and thus render it insoluble in water; the acids had previously been added for the purpose of rendering it soluble in water. Upon allowing this chloroform mixture to repose, the chloroform after a little time subsided to the bottom as a clear, colorless liquid; while the alkaline fluid floated upon the surface. The chloroform solution was now carefully removed from the alkaline liquid by means of a pipette, and the alkaline liquid washed with about its own volume of fresh chloroform, which, after subsidence, was removed and transferred to the first chloroform mixture. The chloroform mixture was nearly or altogether colorless, but presented a slight milkiness, to remove which the liquid was passed through a small filter and received in a large watch-glass. It was now evaporated spontaneously to dryness, when it left a few grains of solid, amorphous residue. A very small portion of this residue had an intensely bitter taste, similar to that possessed by strychnine. This test was applied to several successive small portions with precisely the same results. Another very small portion was transferred to a small watch-glass, and treated with a small drop of pure, colorless, concentrated sulphuric acid, in which it dissolved without any marked change of color. I then added to this solution a small fragment of a crystal

of pure bichromate of potash, and after a few moments stirred it through the drop by means of a glass rod. This gave rise to a distinct coloration, which presented, for a moment, a very indistinct mulberry shade, but nothing characteristic of the presence of any particular poison. Another very small portion of the residue was dissolved in a drop of pure sulphuric acid, and then a minute quantity of pure strychnine added to the mixture; upon stirring a small fragment of bichromate of potash in this mixture, it did not develop any colors indicative of the presence of the strychnine added. This experiment proved that the original residue contained too much foreign matter to detect the presence of strychnine, if present, by means of the color test.

The remaining portion of the chloroform residue was then well stirred with several drams of pure water, containing three drops of acetic acid, and a very small quantity of absolute alcohol. A very marked quantity of the residue remained undissolved. The mixture was now filtered, and the filtrate evaporated at a very moderate temperature to about six fluid drams. This was clear, but had a slightly yellow color, and slightly acid reaction. A very minute drop of this liquid had an intensely bitter taste. Another drop was transferred to a small watch-glass and evaporated to dryness on a water bath, when it left a distinct, gummy residue. This was treated with a very small drop of pure concentrated sulphuric acid, in which it dissolved without any marked change of color. I then stirred in this solution, by means of a glass rod, a very small fragment of a crystal of bichromate of potash, when it developed a series of colors peculiar to strychnine, beginning with a deep blue, momentarily passing into purple, which soon becomes purplish red, and ultimately red, which, after a time, disappears. This constitutes what is known as the "color test" for strychnine. It is impossible to convey in words a full description of this series of colors; their intensities and duration are much modified by several circumstances, such as the quantity and purity of the strychnine operated upon, and the

relative quantities of acid and bichromate used. Yet, any one conversant with the colors developed by strychnine when acted upon by this test, could not possibly confound them with the reactions of any other known substance. Under the conditions under which this test was applied, the results could not have been due to any known substance except strychnine.

It has been objected that narceine, pyroxanthine, papaverine, salicine, cod-liver oil, and some few other substances, yield with this test reactions which might be confounded with those of strychnine; but these objections have no foundation whatever in fact, when the test is properly applied by one who is at all conversant with the séries of colors developed by strychnine. Between the substances mentioned and strychnine there is this essential difference: that they yield colors when acted upon by sulphuric acid alone, whereas, strychnine dissolves in this acid without any change of color, and the solution remains colorless until the addition of the bichromate of potash, when the series of colors peculiar to strychnine are developed. Even if the sulphuric acid and bichromate were added in combination the colors developed by neither of these substances, except perhaps that of cod-liver oil, could be confounded by any one having even a limited experience, with the colors due to the presence of strychnine. Aniline, which is a rather rare *liquid* substance, will unite with certain acids to form colorless solid salts, which, like strychnine and its salts, dissolve in sulphuric acid without change of color, and the solution, when treated with a crystal of bichromate of potash, after a time assumes a deep blue color. But in this case the bichromate produces no immediate change, and it is only after a time that the mixture assumes a greenish-blue tint, which slowly passes into a deep blue, which is permanent, or, at least, lasts for many hours. In this respect, therefore, the salts of aniline differ entirely from strychnine, in which the blue color is developed immediately, and lasts but for a few moments, and then the mixture quickly passes through a séries of colors, which, taken

together, are characteristic of this poison. Moreover, a salt of aniline could not have been present in the residue examined, because the original solution, previous to being agitated with chloroform, was rendered distinctly alkaline by means of caustic soda, by which any aniline salt, if present, would have been decomposed, and liquid aniline set free; and even if there had been undecomposed aniline salt, this would not have been dissolved in the chloroform used, as it is insoluble in this liquid. I have a specimen of *woorara*, frequently called South American arrow poison, which I find contains a principle which yields, with the color test, results very similar to those of strychnine, although it does not contain this substance. This *woorara* dissolves slowly, but not entirely, in concentrated sulphuric acid, with a more or less red tint, depending upon the quantity dissolved; when a small crystal of bichromate of potash is stirred in this solution it yields, after a little time, a series of colors very similar to those of strychnine. The only difference I have observed is, that the colors do not appear as promptly as in the case of strychnine, and they are not preceded by as rich, deep blue, as when pure strychnine is used. In this latter respect, however, it corresponds to the behavior of a residue of strychnine contaminated with foreign organic matter. When, however, we dissolve a chloroform extract of this substance in concentrated sulphuric acid, or take an alkaline solution, in which the active principle of this substance is much more soluble than in chloroform, and render this strongly acid with sulphuric acid, and stir in the mixture a crystal of bichromate of potash, it immediately yields a series of colors precisely similar to that produced with solutions of pure strychnine. I have never succeeded in obtaining the active principle of this substance in the crystalline form. It is but sparingly soluble in chloroform, but dissolves freely in alkaline liquids. Strychnine is freely soluble in chloroform, but is insoluble, even in strong solutions, of the alkalies, except ammonia, in which it dissolves

very sparingly. Woorara is an exceedingly rare substance. It has an exceedingly bitter taste, which, I think, differs in character from that of strychnine. It is a vegetable mixture, prepared by the South American Indians, and used by them for killing game. It affects the system very rapidly when introduced into the circulation, but has little or no effect when taken into the stomach. I have given it in comparatively large doses to inferior animals without any apparent effect; but when introduced under the skin, even in very small quantity, the animals would fall very speedily. Its physiological effects are totally different from those of strychnine. I made the experiments with this substance long before my connection with this case.

I will now proceed to detail the further examination of the six drams of liquid obtained from the treatment of the stomach and its contents.

Another drop was taken from this solution and placed in a watch-glass, and there treated with a strong *solution* of bichromate of potash. This yielded no immediate change, but after a little time small square crystals began to separate, which, after a short time, became very abundant. In this respect the mixture behaved precisely as a solution of strychnine of a certain degree of concentration would under like circumstances, and wholly unlike a solution of woorara. A strong solution of woorara yields with a solution of bichromate of potash a precipitate, but I have never succeeded in obtaining it in a crystalline form. The liquid was then decanted from these crystals, and they treated with a drop of concentrated sulphuric acid, when they immediately assumed an intense blue color, which soon passed through the series of colors peculiar to the crystals of strychnine under like circumstances. The amorphous precipitate produced from solutions of woorara by a solution of bichromate of potash, when treated with sulphuric acid passes through precisely the same series of colors as that from the crystalline strychnine deposit. From the experiments now made I have no doubt whatever, of the presence of strychnine in the stomach examined.

The balance of the six drams of fluid from the stomach was now evaporated at a very moderate temperature to about one fluid dram; this was rendered distinctly alkaline by means of a solution of caustic soda, and the mixture violently agitated for some time with about twice its volume of pure chloroform. After repose, the chloroform was carefully separated, and the alkaline liquid washed with about its own volume of chloroform, which, after separation, was mixed with the first chloroform liquid. The mixed chloroform was now evaporated spontaneously in a watch-glass, when it left a residue consisting almost entirely of crystals having the same form as those of pure strychnine. These were carefully dried on a water bath and weighed. They weighed $\frac{1}{16}$ of a grain.

The smallest fragment of one of these crystals, when examined by the color test, showed conclusively that they were composed of strychnine. A very small portion of the amorphous matter present, when examined by the same test, showed that it also contained strychnine. A portion of the crystals was now dissolved in a few drops of water containing a trace of acetic acid, and the solution examined by the following tests: 1. One drop of the mixture was treated with a small drop of a solution of bichromate of potash, when it furnished a crystalline precipitate having the same form as that produced by strychnine; and which, when treated with sulphuric acid, developed the series of colors peculiar to strychnine. 2. Another drop was treated with a solution of ferricyanide of potassium, when, after a little time, it yielded a crystalline precipitate similar to that from strychnine; and which, when treated with sulphuric acid, underwent the change of colors characteristic of strychnine. 3. Another drop treated with a solution of carbazotic acid yielded a crystalline precipitate similar in form to that produced from strychnine. This test within itself was not characteristic of the presence of strychnine. 4. The last drop was treated with a solution of caustic potash which yielded a crystalline precipitate similar to that from strychnine; and which,

when treated with sulphuric acid, and a small crystal of bichromate of potash proved to be strychnine.

These tests prove, beyond a question of doubt, the presence of strychnine in the stomach examined, and that I recovered about $\frac{1}{10}\frac{3}{4}$ of a grain of the pure poison from that organ. The remaining portion of the crystals was then scraped from the watch-glass and introduced into the small glass tube which I here present. The deposit in the watch-glass was examined by means of a microscope, which revealed that it consisted almost entirely of crystals having the same form as those assumed by strychnine under like circumstances. The precipitates produced in all these experiments were examined by means of the microscope. It is the only way to determine the form of deposits under these circumstances. There was undoubtedly some strychnine lost during my manipulations previous to weighing the residue. I had used some little in the application of the previous tests. My object in making the second chloroform purification, was not for the purpose of ascertaining whether strychnine was present, for that had been already proved, nor to learn how much I could absolutely recover, but for the purpose of obtaining it in as pure a state as possible. Frequently in the examination of as complex organic mixtures as the contents of a stomach we cannot detect the presence of strychnine, especially when present in small quantity, until after we have made the second chloroform purification. A portion of the residue contained in the tube, examined quite recently, showed that it had not undergone decomposition. The watch-glass from which I removed this residue was washed with a very small quantity of water, which I have here in this small tube. I can show the presence of strychnine in a single drop of this solution. This concludes the chemical examination of the stomach and its contents.

Examination of the Heart and Blood.—The contents of the jar containing the heart and blood were next examined. The blood was in a fluid state. I added to the mixture twelve drops of con-

centrated sulphuric acid, and after agitation, decanted the blood which measured a little over one fluid ounce. The heart was then washed three different times, using for each washing two ounces of slightly acidulated water; after which, it was washed with two ounces of strong alcohol. All these washings were mixed with the blood in a large porcelain evaporating dish. The heart was then removed from the jar and carefully examined in regard to its physical condition, but no diseased action whatever was detected. The contents of the evaporating dish were maintained at a moderate heat for about half an hour; during this time the mixture was very frequently stirred. The cooled mixture was thrown upon a clean muslin strainer; the liquid passed through clear but had a deep reddish color. A large quantity of coagulated matter remained upon the strainer; this was well washed with warm acidulated water, and the washings added to the liquid obtained by the first straining. These mixed liquids were again strained, and then concentrated at a moderate heat to about four fluid ounces, again strained, and then evaporated to less than a fluid ounce. This, after standing for several hours, was mixed with strong alcohol, filtered through paper, and the filtrate evaporated to about one dram; this was again mixed with strong alcohol, filtered, and again evaporated to a small volume.

This was slightly diluted with water, the mixture rendered alkaline with caustic soda, and then agitated with about two volumes of chloroform; after this had separated it was removed, and the alkaline solution washed with more chloroform. The mixed chloroform was allowed to evaporate spontaneously; it left a small, yellowish, gummy residue. This was dissolved in a small quantity of water containing a drop of acetic acid, the solution filtered, then rendered alkaline with soda, and again agitated with a few volumes of chloroform. This upon spontaneous evaporation left a small, gummy residue. A small portion of this had a distinctly bitter taste. It was then treated with a small quantity of

acidulated water, filtered, and evaporated to dryness. A small portion of this residue, examined by the color test for strychnine, gave an indistinct purplish coloration ; the remaining portion examined by the same test, gave a distinct purplish coloration, which speedily disappeared. This coloration was similar to that produced by minute portions of strychnine when mixed with foreign organic matter. The tissue of the heart was not examined chemically.*

Examination of the Urine.—The third jar that I opened contained the bladder and about two fluid ounces of bloody urine. A few ounces of pure water were added to the contents of the jar, and the mixture acidified with acetic acid ; it was then decanted into an evaporating dish. The jar and the tissue of the bladder were then washed with a few ounces of water, and the washings added to the acidified urine. The liquid thus obtained was then treated essentially after the manner described in the treatment of the liquid obtained from the stomach and its contents.

The first chloroform residue had a bitter taste; a small portion examined by the color test for strychnine, gave no distinct evidence of its presence. The remaining portion of the residue was dissolved in acidulated water, rendered alkaline with caustic soda,

* Knowing all the circumstances I have no doubt but the above coloration was due to the presence of strychnine ; yet it is remarkable that it was discovered in so small a quantity of the blood. I am under the impression that this would rarely occur in cases of poisoning in the human subject. From the same amount of blood taken from cats, recently poisoned by this substance, we have as yet never failed, by following the above process, to detect the poison, but here that quantity of blood constitutes about the whole of the circulation. It does not follow that a given quantity of blood taken from the human subject in poisoning by this substance, would contain as much strychnine, as the same quantity taken from a poisoned cat. In fact there is much less difference in the fatal dose for a cat and that for the human subject, than in the quantity of blood contained in these animals.

and extracted a second time by chloroform. The residue left upon the avaporation of this, when examined by the color test for strychnine, gave satisfactory evidence of the presence of that poison. The whole of the residue was consumed in the application of this test.

Examination of the Powders.—At the time I received the above jars, I also received two packages of powders; one of which contained a single powder, the other three separate powders. The single powder, which I here present, was labelled "A portion of Doct. Converse medicine—Doct. Haynes." This powder was white, and, when examined under the microscope, was found to consist of broken crystals. I then examined a portion of it, by the color test for strychnine, but it furnished no evidence whatever of the presence of this poison. Another portion was dissolved in acidulated water, and a stream of sulphuretted hydrogen gas passed into the solution; this gave a brick red precipitate, which indicated the presence of antimony. The three powders contained in the other package had each a brown color. I here present these powders. A portion of these was examined for strychnine, but this poison was not present. There was no further examination of the powders made.

All the organs examined in this investigation, had the appearance of those of an adult individual. During the examination, the greatest possible care was taken in regard to the purity of the reagents and apparatus used, and that no foreign matter should be introduced into any of the mixtures.

Examination of the Cat.—By request of the prosecuting attorney of this county, I obtained from Doctor I. N. Hamilton, on the 31st of March, 1863, in this court room, a glass jar, wrapped in paper. It was carefully sealed and contained the internal organs of one of the smaller animals, together with some liquid blood. I carried the jar and its contents to my laboratory, in Columbus, and there examined it.

The blood was decanted from the jar and measured ten fluid drams. The organs were then washed with distilled water containing acetic acid, and the operation repeated two or three times. These washings were added to the blood. The organs were then removed from the jar, placed in a large dish, and examined physically. They corresponded to the internal organs of a cat, except that the kidneys were not present. I am quite familiar with the internal organs of this animal.

The Blood.—To the mixture of the blood and washings obtained from the jar, I added a small quantity of absolute alcohol, and several drops of concentrated sulphuric acid. This mixture was gently heated for some time, allowed to cool, strained, and subsequently treated in essentially the same manner as described in the examination of the blood obtained from the human heart.

The first chloroform solution, when evaporated spontaneously, left a slight gummy residue, which had a distinct bitter taste. This residue was dissolved in water acidulated with acetic acid, the solution filtered, rendered alkaline with caustic soda, and the mixture agitated with chloroform. This upon spontaneous evaporation left a slight residue. A portion of this was examined by the color test for strychnine, with equivocal results. A second portion, examined by the same test, gave indistinct evidence of the presence of this poison. The balance, and much the larger portion, when examined by the same test, gave very distinct evidence of the presence of strychnine.

The Stomach.—I next separated the stomach from the other organs, placed it in a dish, and cut it open. It contained a small quantity of a thick mixture of liquid and solid matters. Scattered through this mixture were a number of small lumps of solid matter, having a yellowish color, and about the consistence of mush. A number of these lumps were collected together and washed in pure water. A portion of these examined under the microscope presented the appearance of broken up cells and frag-

ments of vegetable structure. When examined beside a specimen of recently prepared mush, I could detect no difference whatever in their microscopic characters. A number of these lumps, examined by a solution of free Iodine, proved to be composed principally of starch. I then placed a portion of the washed mush-like matter upon a piece of paper, allowed it to dry, then introduced it into this tube, which I here present, with its contents. In drying, this matter changed somewhat its physical appearances and color. Upon moistening it with water, it assumes its original appearance and color. There was in all about, or perhaps less, than a tea-spoonful of this matter. The lumps varied in size from that of a head of a pin to that of a small pea. Those contained in the tube are about an average size. The remaining portion of this matter, together with the other contents of the stomach, were mixed with several ounces of water and the mixture decanted from the tissue of the stomach. This mixture was strongly acidified, mixed with strong alcohol, and then treated much after the same manner as described in the examination of the contents of the stomach obtained from the first jar examined.

The residue from the first chloroform used, had a bitter taste, and, when examined by the color test, gave very distinct evidence of the presence of strychnine. A portion of the residue not used in this examination, when purified a second time with chloroform, gave very satisfactory evidence of the presence of strychnine. The whole of the residue was consumed in this last examination.

The remaining organs, obtained from the jar, were then cut into small pieces and examined together. The first chloroform residue obtained from these was dissolved in acidulated water, the solution rendered alkaline with soda, and the mixture again agitated with chloroform. This, upon evaporation, left a very gummy residue, a portion of which, when examined by the color test, gave no evidence of the presence of strychnine. Another portion was mixed with a very small quantity of pure strychnine, and then

examined by the same test, when it failed to show the presence of the strychnine added. This experiment was resorted to for the purpose of ascertaining whether the failure of the former test was really due to the absence of strychnine, or whether it might not be due to the presence of foreign matter. It proved that there was present some matter which prevented the test revealing the presence of strychnine, even when present in notable quantity. It not unfrequently happens, when operating upon very complex mixtures, such as the above, that the chloroform extracts foreign matter which prevents the action of the color test. If there is a marked quantity of strychnine present, these impurities may be separated by subsequent purifications with chloroform. No further examination of the remaining portion of the above residue was made. There was but a small quantity left. This closes the examination of the parts submitted to me for chemical examination.

In its pure state, strychnine is a white crystalline solid which has an intensely bitter taste. This bitter is so intense that most persons will recognize the taste of the 50,000th part of a grain when dissolved in one grain of water. The first effect of a poisonous dose of strychnine, or its salts, is generally a sense of difficult breathing and a feeling of suffocation; this comes on sometimes very suddenly. This is soon followed by a trembling or twitching of the extremities, then convulsions of the whole body. During these convulsions the extremities become rigid, the respiration arrested, the face suffused with blood, the head thrown back, the body stiff; often the body rests upon the head and heels. The hands are clenched, the toes drawn back, and the soles of the feet arched. The jaw is frequently fixed, but this does not usually appear until after rigidity in other parts; sometimes the jaw is not fixed. This condition may continue for a few moments or for some minutes, after which the body becomes relaxed. During the interval the mind is generally clear; most frequently the patient is able to converse; there is frequently a sense of dissolution, and

often the patient has exclaimed "I shall die," or used some similar exclamation. Subsequent paroxysms are frequently induced by slight causes, such as a sudden touch, a current of cold air, or a sudden noise. The paroxysms, in fatal cases, follow each other at short intervals. The patient generally dies in a relaxed condition soon after one of these severe paroxysms, but they may die in one of these spasms, and the body retain the position induced by the convulsion. In poisoning by strychnine, the patients have frequently desired to be rubbed.

The time at which the symptoms first appear is subject to considerable variation. In some instances they have appeared within a few minutes after the poison was taken, while in others they have been delayed for an hour or more; in one recorded case they were delayed for two hours and a half. Perhaps in the majority of cases they appear in from ten minutes to half an hour. The time at which the patient dies is also subject to considerable variation. Death has taken place in ten minutes after the poison was taken, while it has been delayed as long as six hours. The time seems to have little or no relation to the quantity taken. One of the most rapidly fatal cases yet recorded, resulted from the smallest dose yet known to have proved fatal to an adult. The quantity taken was half a grain; the same quantity has proved fatal to an adult in at least one other case. In a case in which life has been prolonged to the greatest period yet known, the quantity taken was three grains. In several fatal cases the quantity taken was less than one grain; in several instances persons have recovered after taking some grains; in one instance a person is said to have survived the effects of seven grains. In most instances, from one to two grains would prove fatal to an adult.

Strychnine seems to act principally upon the nerves of motion. By producing spasm of the muscles of respiration, it prevents the admission of air to the blood. I cannot say what its direct effect upon the spinal cord is. It seems to manifest its effects through

the spinal cord. I know of no post mortem appearance peculiar to poisoning by strychnine. There is generally congestion of the lungs and brain; sometimes the membranes of the stomach are more or less congested in patches, while at others there is no abnormal appearance. The blood throughout the body is generally fluid and of a dark color. The body is usually in a more or less rigid state. None of these conditions are peculiar or characteristic of poisoning by strychnine; any of them may result from other causes. I mean that no post-mortem examination would enable me to say that death was caused by strychnine; the same appearances might be induced by other causes. I know of no substance except strychnine that could produce all the symptoms you have stated; from such symptoms I should at once infer that the patient was laboring under the effects of strychnine.

By following the method pursued in the examination of the blood in this case, it is usual to detect the presence of the poison in cases of poisoning by it, if sufficient blood is used for the examination. There have been frequent failures to detect the poison in the blood. I have applied this method, with slight modification, to the examination of the blood of eight different animals poisoned with strychnine, and never failed to detect its presence. The color test, when properly applied to the examination of a white crystalline substance, is open to no known fallacy. When there was sufficient material on hand, I would always apply other tests. When a solution yields, with a solution of bichromate of potash, a precipitate having a certain crystalline form, which, when treated with concentrated sulphuric acid, yields a certain series of colors, there is no doubt whatever, but the solution contains strychnine. There is no other substance known that will yield the same results. The same is also true of a solution that yields a crystalline precipitate with ferricyanide of potassium, which, when treated with sulphuric acid, furnishes a similar series of colors. In the examination of the cat, the presence of strychnine

nine was predicated upon the reaction of the color test and the taste; there was not sufficient recovered to apply any other tests. Strychnine, when introduced into the stomach, gets into the system by absorption. It is certain that I did not recover *all* of the strychnine present in the different parts which furnished it upon examination.

Cross Examined.—The chemicals and materials used for the preparation of the different parts for examination by the tests, were distilled water, absolute alcohol, strong alcohol, acetic acid, sulphuric acid, caustic soda, and pure chloroform. The reagents used for testing were sulphuric acid, solid bichromate of potash, a solution of bichromate of potash, carbazotic acid, ferricyanide of potassium, and a solution of caustic potash. Except in one of the examinations, no reagents were used, other than sulphuric acid, and solid bichromate of potash. None of these reagents were introduced into the mixture, but only applied to separate parts of it. I obtained from the stomach, after applying several tests, 18-100ths of a grain of strychnine. I would not venture an opinion as to how much of the poison was lost in its separation from the stomach. The fifth part of a grain dissolved in four ounces of *pure* water, would furnish a distinctly bitter solution. No one, under ordinary circumstances, could take this solution without being conscious of its taste. This mixture would form about a 10,000th solution; that is, there would be one part of strychnine in solution in about 10,000 times its weight of water. The extent to which a solution of this substance can be tasted will depend very much upon the quantity of the solution used. If one drop of a 50,000th solution was used, the absolute quantity of strychnine present would be the 50,000th part of a grain; while if 10 drops were used, it would contain the 5,000th part of a grain. When I reduced the mixture, obtained from the stomach and its contents, to four fluid ounces, I did not perceive a distinct bitter taste upon tasting a very small drop. The first

color developed by the color test with *pure* strychnine is a deep blue, which very quickly passes into purple, this into purplish-red, which soon becomes more or less red, and then fades. This is what is called the color test. To develop this series of colors, other agents may be substituted for the bichromate of potash. They are ferricyanide of potassium, peroxide of lead, binoxide of manganese, or a current of voltaic electricity. I prefer the bichromate; any of the other methods are about equally delicate. It is the change of color that gives value to this test. Doctor Hofmann and Professor Graham are good authority. I do not remember the special words in which Professor Hofmann describes the reaction of this test. Stilles' *Materia Medica* is received by the Medical profession as authority. Strychnine is usually stated to be soluble in 7,000 times its weight of pure water, but according to my own investigations, it requires but little less than 9,000 parts of pure water. A solution of this kind might be diluted with five times its volume of water, and a drop of the solution would still have a perceptible bitter taste; if diluted with ten parts of water, and ten drops were used for tasting, the taste would be more marked than before, because the absolute quantity of strychnine used would be about the 10,000th part of a grain, whereas, in the first instance, it would be about the 50,000th part of a grain.

I have in several instances extracted strychnine from the blood of animals poisoned by this substance. Some writers have stated that it could not be recovered from the blood, while others have stated that it could. It is my impression that Dr. Taylor states that it cannot be recovered from the blood. I never saw but one person die from the effects of strychnine. Doctor Hamilton gave me the jar containing the internal organs of a cat. I had heard that it was supposed that the cat had died from eating mush and milk poisoned with strychnine. I had also heard that it was suspected that Freet had died from the effects of strychnine. It would depend upon the method followed in the analysis of the stomach,

whether the presence of morphine would interfere with the color test or not. By the method I followed, morphine could not have been present in the residue examined by the color test. It is now quite generally known that morphine, if present in the residue to which the test is applied, interferes with the color test. I believe I was the first person to show this quantitatively.

Re-examined.—Certain animal substances may interfere and entirely prevent the action of the color test. I have detected the poison in the blood of eight different cats poisoned by strychnine. These analyses were made long before the occurrence of this case. From the fact that pure strychnine is much more soluble in chloroform than in ether, the former liquid is much preferable for the extraction of the poison. According to my investigations, strychnine dissolves in about eight times its weight of chloroform, whereas it requires about fourteen hundred times its weight of pure ether to dissolve it. The salts of strychnine are insoluble in chloroform. The poison is but sparingly soluble in pure water, but it dissolves very readily in water containing a free acid; most of the salts of strychnine are freely soluble in pure water. I consider the action of the color test, the precipitation by a solution of bichromate of potash, and also the precipitates produced by ferricyanide of potassium and a solution of caustic potash, with the subsequent treatment of these, as each within itself indicating conclusively and beyond a question of doubt, the presence of strychnine. I do not consider the reaction of the solution of carbazotic acid conclusive within itself, but it yielded a precipitate having the same crystalline form, as that produced from a solution of strychnine. The presence of calomel or opium in the contents of the stomach would not have interfered with the action of either of these tests, as they would have been removed from the mixture before any of the tests were applied. The sulphuric acid, in applying the color test, was applied before the introduction of the solid bichromate, for the purpose of ascertaining whether the acid alone produced any coloration. Cod-liver oil, narceine, and the other substances

which have been named, yield their colors to the sulphuric acid alone, whereas strychnine yields no coloration until after the addition of the bichromate. The ordinary medicinal dose of strychnine is about the 1-16th of a grain.

[TO BE CONTINUED.]

American and Foreign Intelligence.

Scarlatina.

[From La Clinique Medicale del'Hotel Dieu de Paris. Par A. TROSSEAU, Professeur de Clinique, Medicale de la Faculte, de Medicine de Paris. Translated by J. H. D.]

VARIETY OF EPEDEMICS—CONTAGION—INCUBATION—SYMPTOMS OF THE INVASION—CHARACTER OF THE ERUPTION—DESQUIMATION.

Gentlemen: For six months past you have frequently observed patients afflicted with scarlatina, in our wards, while in the city this disease has prevailed epidemically, assuming a severe type. Last month we were able to study rare forms of this disease, and I cannot let the occasion pass without speaking to you of them, for they are generally little known by the young gentlemen who visit our hospitals.

In fact, gentlemen, scarlatina is, of all the exanthematous and contagious pyrexias, the most variable in its forms and characteristics. It is, also, the most variable in relation to the danger the patient undergoes. Variola, whether benign, discrete, malignant or confluent, is still variola; it is always recognized by its peculiar characteristics; always, with very rare exceptions, observed particularly by physicians who have preceded us; it shows itself exteriorly by anatomical lesions which are peculiar to it, whether it has been modified or not, as it so often is, by vaccination or an antecedent variola. Scarlatina, on the contrary, may not appear upon the skin; it is, nevertheless, none the less serious. Rougeola has almost always the same symptoms; its diagnosis is ordinarily simple or almost always easy; its complications, generally foreseen, appear at a certain time, a certain day which the physician can foretell. Scarlatina, as we shall see, presents complications most frequently not anticipated, which the most experienced physician cannot predict, even when they are imminent.

Scarlatina is sometimes so benign, that one of the greatest observers of past ages, Sydenham, said of it: *Hoc morbi NOMEN (vix enim altius assurgit).* Sydenham has given us in his writings

only the results of his own personal experience ; and as he had never seen it of a severe type, he treated scarlatina with a sort of disdain which he is far from having for rougeola or variola. In our own time, writers, whom we should consult, tell us that, for many years, scarlatina, as observed by them, was so mild, that they had not seen a death from it. Graves, in his *Clinical Lectures*, states that, in 1800, 1801, 1802, 1803 and 1804, scarlatina ravaged Ireland and was very destructive, while from 1804 to 1831, those physicians who had found it so terrible during the years already cited, saw hardly a patient die from this affection, which had become of wonderful benignity. In 1831, a new epidemic of malignant scarlatina manifested itself at Dublin and its vicinity, and in 1834 it plunged the whole of Ireland in a deeper mourning than did typhus a few years later, or Asiatic cholera two years before.

While I was studying medicine at Tours, M. Brettonneau taught us that scarlatina, which he had heard spoken of by his teachers as a very dangerous disease, had appeared to him quite otherwise. He told us that from 1799 to 1822, the year which we had then reached, he did not recollect having seen a patient die from scarlatina ; and yet he had for a long time practised in the country before becoming physician-in-chief of the hospital of Tours. Numerous cases which he had seen, both in his country and city practice, had proved to him that this exanthematous pyrexia was the mildest of all. But in 1834 an epidemic broke out in Tours and its vicinity, and M. Brettonneau, who was opposed to the doctrines of Broussais then in vogue, learning that many patients had died suddenly, attributed it to the treatment employed by his confreres, who bled profusely to combat angina and the pretended initiatory inflammatory fever. Soon after, brought directly in contact with the disease, he found out that he could not always treat it successfully, a certain number of those under his charge dying ; so that he who, before 1824, had regarded scarlatina as a mild disease, learned to dread it equally with the plague, typhus and cholera.

Thus, gentlemen, you see, scarlatina, which for a quarter of a century prevailed epidemically without presenting any severity, suddenly changed and became most serious in its character. It is less often so with rougeola and variola. Without doubt epidemics of rougeola and variola are sometimes very severe, but they are never so generally severe, nor are they ever so generally benign as are epidemics of scarlatina. For the latter, the epidemic genus dominates more than for the former ; for, according to the nature of this genus, an epidemic of scarlatina is extraordinarily simple or remarkably severe.

You have witnessed, gentlemen, with what care I have questioned our patients upon the conditions which might have caused the disease. I do not forget that the causes which ordinarily favor the appearance of other diseases, are usually present in the evolu-

tion of the exanthematous pyrexias, and that contagion should be more especially sought for. I shall have occasion to recur hereafter to this evolution of contagion germs. I fear I should not give sufficient importance to this grand question, if I merely touched upon it now; and I should suffer the inconvenience, and that, too, by my own fault, of not being understood by you. You have seen how much importance I attach to the fact of knowing the day when, for the first time, a direct or indirect contact took place with a contaminated individual; you have noticed that if this contact was sometimes evident, at other times it could not be asserted, and that when communications had existed between the patient and one affected with scarlatina, these communications were such that it was impossible to state the duration of the period of incubation.

In an exanthematous fever, when the virus is not directly inoculated, nothing is more difficult to affirm than the duration of this period. There is nothing, also, which varies so much as the manner in which, generally, this question has been solved. According to some, the incubation of scarlatina continues from three to five days, according to others eight, and according to others again, it can be prolonged to fifteen, twenty, and even thirty days. In a word, hypothetical data are given, because it is impossible to give positive data until we can fix a precise date to the very commencement of the period of incubation. But this precise date, we can have for only one single pyrexia, variola, because variola is directly inoculable. Twice this inoculation has been practiced on a grand scale, for half a century, through the whole of Europe, we have been able to state exactly the period of time which intervenes between the moment when the virus of variola has been introduced beneath the skin and the time when the disease shows itself. But if, thanks to this, we have been able to determine exactly the duration of the period of incubation in variola, the same is not true of the other exanthematous pyrexias which we have not yet inoculated, perhaps because they are not inoculable. For the latter, it is necessary, then, in default of inoculation, to take as the point of departure for the period of incubation, the moment when the individual was in contact with another affected individual. But contact and inoculation are two very different things. For example: five hundred sheep are placed in the same park, or sheepfold, one of them takes the _____, an eruptive disease of sheep, analogous to variola in man. Fifteen to twenty days later, seven or eight other sheep are taken, and each day thereafter several more fall sick. Sometimes four months pass by before the last has been attacked. But all these animals, enclosed in the same place, breathing a confined air, crowded against each other, and receiving pus from their neighbors, are taken sick, at very different times. Do you conclude from this that the period of incubation has been longer among some than among others? Not at all, for if inoculation was performed the same day upon all, you would see the disease

manifesting itself the same day in all, without exception. Contact and inoculation are, then, two very essentially different things. By inoculation the virus is introduced almost necessarily into the system; by mediate or immediate contact, absorption, and if I may be permitted the expression, the conception of the virus does not always take place fatally, it takes place only when the economy is in a particular condition; it is necessary, so to say, that the way should be open. When once this absorption has taken place, either by inoculation or by contact, the evolution of the disease very probably occurs in a fixed period the same for all cases, within a few hours or a few days.

If then, in the case which I have just cited, we cannot state the period of incubation in animals affected by contagion, so in scarlatina we shall be able to indicate this period only, when we succeed in inoculating the virus of scarlatina. In a family composed of ten persons, the disease will sometimes require five weeks for developing itself in all its members; exactly the same will take place among them as among the sheep of the flock of which I just now spoke. This is owing to the fact, not that these persons were not in contact during a certain time, or that the period of incubation is longer in some than in others, but because they were in different conditions to be affected by the influence of contagion. The same thing takes place in such a case as in syphilis. The dyphthitic virus, inoculated methodically, determined after a certain number of days, the evolution of a specific vesicle, and this number of days is almost always positively the same. If, however, several men have intercourse with an infected woman, some will take the disease immediately, while others, exposed to an infectious contact several days in succession, will become infected only the last day, or will not be infected at all. This depends upon the fact that the former were from the first contact in physiological or pathological conditions, such that the virus immediately inoculated them, while the rest were only later in the same necessary conditions for the absorption of the morbid principle.

Finally, the period of incubation in scarlatina, that is to say, that included between the precise time of the inoculation of the virus of scarlatina and the precise period of the first manifestations of the disease—such period cannot be positively determined in the actual state of our knowledge. The same is true of rougeola.

There are, however, cases it is true very exceptional, in which the duration of the period of incubation of scarlatina can be determined in a measure quite positive.

At the beginning of the year 1859 I was witness of a curious fact in the practice of my friend, Dr. McCarthy, who did me the honor to call me in consultation. A London merchant had brought one of his daughters to the Eaux Bonnes, in the Pyrenus, and had passed the winter with her there at Pau. He returned to England passing by Paris, where he expected to remain a few days. His eldest daughter had remained in London in charge of the house.

Anxious to meet her father and sister, she left London, and crossing the channel, was seized with a fever and sore throat, arriving at Paris seven or eight hours later, with a severe scarlatina. She reached the hotel about the same time that her father and sister arrived from Pau. The latter occupied the same chamber with her eldest sister, and twenty-four hours after experienced the first symptoms of a mild form of scarlatina. Scarlatina prevailed in London; there was none at Pau.

This very curious fact proves that the incubation in certain cases of scarlet fever, may only last twenty-four hours, but I am far from concluding from this that such is ordinarily the case. It is quite probable, in fact, that although the time of incubation of variola may be clearly determined, it is, by no means, in respect to other exanthematous pyrexias.

The period of invasion of scarlatina does not present any more clearly defined limits. Let us see what occurs in variola. In ordinary variola, when the eruption appears earlier than forty-eight hours, calculating from the commencement of the invasion, we may be sure that the eruption will be confluent, because, as a general rule, it is at the end of the second day or the commencement of the third, that the pustules show themselves in this form of the disease; for, if they make their appearance only towards the fourth day, we would diagnosticate a discrete variola. Rarely, indeed is the eruption of the confluent form delayed until the fourth day, and rarely, too, in the discrete form does it take place earlier than the second. It must be understood, however, that I speak only of regular variola, for the characteristics of modified variola or varioloid are not at all the same.

In scarlatina, the progress of the disease is different. In certain cases, the eruption appears during the first four or five hours of the fever; in some, indeed, as ancient authors have said, particularly Heister, and as has since been reiterated, there is, so to speak, no premonitory fever. Four times out of eighty-seven, according to the researches of Messrs. Barth and Rilliet, the eruption was the first manifestation of the disease. In the greatest number of cases the fever of invasion lasted twenty-four hours, and very rarely was it prolonged beyond the first day. It is rarer still, except in cases of complication, that the eruption takes place as late as during the course of the second day, and for a still stronger reason as late as during the third day. If some physicians believe that they have observed this at the latter period, I repeat the fact is extremely rare. I do not deny absolutely its possibility; in my opinion, however, the eruption in these cases must often, in the beginning, have been passed over unperceived, the attention of physicians not having been sufficiently awakened to this fact, they have not sought for it where it existed. In general it is upon the face that we first look for febrile exanthemata, for there in fact they first show themselves, at least in rougeola and variola. It is not so, however, in scarlatina. In the latter disease it is more espe-

cially upon the body, the fore arms, the bowels, and the folds of the thighs, that the eruption makes its first appearance, so that it may exist for, from twenty-four to thirty-six hours, before showing itself upon the face and neck. We may, therefore, believe that it has only just commenced, when in reality it made its appearance some time before. When one is, however, forewarned of its progress, this mistake can readily be avoided. There are, however, some cases in which the period of invasion is greatly prolonged, as in variola, of which we shall speak hereafter—the eruption appearing later than the fourth day on account of serious complications which may arise; and so, also, by reason of serious complications in scarlatina the exanthemata may show itself not merely in the course of the second or third day as we have just now stated, but its appearance may be delayed even to the eighth day, as the following case shows :

Six years ago I was called by my friend Dr. Sarrazin to see a child who was supposed to have a cerebral fever. The patient was six or seven years old. He had headache, had vomited, and there was strabismus, slow pulse, stupidity and somnolence. From these symptoms, we supposed there was meningo-encephalitis. The disease continued, and I revisited the patient the fifth, sixth and seventh day, in no respect altering my diagnosis, and prognosticating a fatal termination. The eighth day a well marked eruption of scarlatina appeared, accompanied with the usual sore-throat, and at the same time the nervous symptoms entirely disappeared. I have seen, in truth, only this single case in the course of my whole medical career, but I do not know whether other physicians may not have seen analogous cases. They are exceedingly rare, for as a rule, the period of invasion in scarlatina is very short.

The phenomena which characterize it are usually fever, either with or without a previous chill. The chill was not present in the patients you have lately seen in our wards. The pulse is quite frequent more so than it is in the other exanthematous fevers. This is important, for in studying this disease in detail, when speaking of scarlatina without eruption, you will observe that in a good many cases, we make a diagnosis solely from the extreme frequency of the pulse, which is seldom observed in other affections which might be confounded with scarlatina. Vomiting and diarrhoea are often present, and almost always the sore-throat appears at the same time with the fever. It is to this symptom that the patient at first calls the attention of the physician, and for that reason it has a particular diagnostic importance. The first day the tongue has no particular appearance; it is febrile, that is, covered with a slightly yellowish fur, slightly red at its point and edges, but upon the veil of the palate a bright redness is always observable, which in some cases is spotted. This redness on the contrary is very well marked upon the tonsils which are slightly swollen.

When the disease is malignant, then the symptoms are very different. The frequency of the pulse is much greater, reaching in

the adult, 130, 140, 150 and 160 pulsations the first day, even before the eruption has appeared upon the skin; at the same time, the nervous system becomes disturbed, there is restlessness, convulsions, an unyielding wakefulness, delirium, and almost always a muttering delirium when the patient is left to himself. These symptoms are very unfrequent in simple sore-throat, as well as in the other fevers. From the very first, malignant scarlatina, appears in all its malignancy, which may be so great as to destroy life within twenty-four hours.

I was called by my friend Dr. Bigelow, to a school at Paris, to see a young American girl. She had been, since morning, in a raving delirium. There was an incessant vomiting, an intense fever, and the pulse was so frequent that it could not be counted; the skin was remarkably dry. These symptoms caused me to conclude, on approaching the patient, that she had scarlatina; and if nothing else demonstrated its existence, my diagnosis was confirmed by the presence of a characteristic eruption upon another girl in the same school, in which then prevailed an epidemic. Our patient died before the close of the day.

In 1824, at the commencement of that disastrous epidemic which spread over Tours, of which I have already spoken, I saw, with M. Brettonneau, a young woman die within eleven hours, with terrible symptoms, delirium, excessive restlessness, extraordinary frequency of pulse, and there was nothing to indicate the character of the disease, except that we were in the midst of an epidemic of scarlet fever, and that several persons in the same family had been attacked.

Be on your guard then, if under similar circumstances, in the midst of an epidemic of scarlet fever, and especially if several persons in the family of your patient have been ill with it; be on your guard, if these nervous symptoms appear at the beginning of an illness. They almost always announce a malignant scarlet fever, and it almost always kills with dreadful rapidity.

I am very emphatic upon this point, because the most serious errors of diagnosis may be made on account of it, and a faulty prognosis be given which may seriously compromise the reputation of the physician. In practice, we are sooner forgiven for letting patients die than for making mistakes in regard to the termination of a disease.

These precepts upon the value of prognosis in general, as regards the patient and as regards the physician are of great importance. Hippocrates announced it when he said, in the first chapter on Prognosis :*

“It appears to me a most excellent thing for the physician to cultivate prognosis; for by foreseeing and foretelling, in the presence of the sick, the present, the past and the future, and explaining the omissions which patients have been guilty of, he will be

*Genuine Works of Hippocrates, translated by Francis Adams, LL.D., Sydenham Soc. Ed., Vol. 1, page 234.

the more readily believed to be acquainted with the circumstances of the sick; so that men will have confidence to intrust themselves to such a physician. And he will manage the case best who has foreseen what is to happen from the present state of matters. For it is impossible to make all the sick well; this, indeed, would have been better than to be able to foretell what is going to happen. It therefore becomes necessary to know the nature of such affections, how far they are above the powers of the constitution, and, moreover, if there be anything divine in the diseases, and to learn a foreknowledge of this also. Thus a man will be more esteemed to be a good physician, for he will be the better able to treat those aright who can be saved from having long anticipated everything; and by seeing and announcing beforehand those who will live and those who will die, he will thus escape censure."

There are considerations which it is well should not be forgotten in practice. To return to our subject. When you observe the symptoms, of which I have spoken, in an epidemic of scarlet fever, be cautious in the expression of your opinion, for they may, perhaps, suddenly terminate in death. They are almost never so fatal in rougeola or even variola.

I have endeavored to point out to you at the bedside, the characteristics of the eruption. Still, I fear notwithstanding the care I have taken, that I have not succeeded.

If we consult certain works, it would really seem that a physician should never fail in making a diagnosis in this disease. Rougeola, they say, consists in an eruption of small isolated points, irregular in form, with intervals of white skin between them. Variola is known by its little accuminated papillae, becoming vesicular the second day, pustular the third, and about the eighth day becoming umbilicated and surrounded by an inflammatory areola. These peculiarities are so well marked that we should never be mistaken. As to scarlatina, its characteristics are still more distinct. The eruption is diffuse, in spots, of a bright red color. This is very simple, but these descriptions are far from giving an exact account of what really exists in all cases. I have shown you, in fact, measles when the eruption was diffuse, uniform, without the spots being isolated, by islands of white skin. This form, it is true, is not the regular rule, but it exists. On the other hand you will meet discrete scarletinas, and even very confluent cases, in which the eruption will be in certain places, formed by spots, and even by a multitude of little round red points, perfectly isolated from each other, and without that wine-like color, or raspberry color, which is given to it. Although it differs from the eruption of measles, they can, nevertheless, be confounded with each other.

What distinguishes scarlatina, is the presence of the miliary eruption which very often accompanies the redness of the skin; it is almost invariably present when the eruption of scarlatina is slightly confluent. It appears upon the sides of the neck, of the

chest, upon the bowels, and can be discovered without the eye, by passing the hand over the regions, when little elevations will be felt like that condition of the skin called goose-skin. Examining them, a multitude of little vesicles will be seen, which, within thirty-six or forty-eight hours, become filled with a lactescent fluid.

The eruption of scarlatina is not usually of a uniform color like that of erysipelas, but is composed of an infinite series of little red elevations of the skin, resembling very fine vesicles of eczema. They are readily felt, and are still more evident by the aid of a magnifying glass. These little elevations have a rose red base. The redness of the skin is in its greatest intensity upon the neck, chest, bowels, inner side of the arms and thighs. If we press with the finger upon those parts occupied by the eruption, or draw a line over the surface of the skin with a pencil, for example, the redness will momentarily give place to a white color, which is in contrast with the redness which surrounds it; with the cessation of pressure, the redness rapidly reappears. This point had by no means escaped the observation of our predecessors; it is found laid down by Borsieri. The eruption appears in all parts about the same time, although it becomes developed most frequently upon the neck before it appears upon the face. In this latter place it has a different appearance than upon the body. Bright red in some places, and with white lines; besides these, the skin of the face looks as though it had been violently struck with the open hand, leaving the marks of the fingers; at the same time it is swollen, and this tumefaction is also observed upon the hands and feet. Appearing at the same time with the eruption, the swelling increases with it, and, consequently is greater the second and third days. It so interferes with the movements of the fingers that the patient can bend them with difficulty, and is easily recognised by the eye. Following the eruption it generally disappears with it, both upon the face and extremities. This swelling, gentlemen, should be very carefully distinguished from that which belongs to scarlatinous rheumatism, of which we shall soon speak.

On examining the throat of the patient, you will find it a very bright red color, with tumefaction of the veil of the palate and of the tonsils; very often the latter are covered with small whitish concretions, the first manifestation of membranous angina of scarlatina, of which I shall speak more at length.

The appearance of the *tongue* is of such a character, so specific, that it alone is sufficient to indicate the disease. You will find nothing like it either in rougeola or variola; it is as much confined to scarlatina as is, perhaps, pustules of the mouth to variola. The first day there is only a more or less thick yellowish fur, more or less white, with a yellow or green tinge when the patient has vomited; at this time there is only a little redness of the point and edges of the tongue, of which we have already spoken. The next day this redness increases in intensity and extent; it increases also the third day, and the fourth the saluvial covering has almost

entirely disappeared. The whole tongue then is of a scarlet red, tumefied; the papillæ are considerably elevated, giving to its surface the appearance of a strawberry. It is deprived of its epithelium, and, in some cases, the process of desquamation can be helped along by rubbing with a piece of linen upon the affected part. This is a constant phenomenon, invariable in scarlatina, unless there has been no febrile symptoms. Nothing like this, I repeat, is present in rougeola or variola, even when the latter is accompanied with stomatitis. Towards the seventh or eighth day, still preserving its red color, the tongue becomes smoother; and towards the eighth or ninth day the epithelium is reformed, at first very thin, and towards the twelfth day it has regained its natural thickness, but the mucous membrane continues redder than it is in its normal state.

In studying the relations which exist between the severity of the disease and the intensity of the eruption, you will find that certain authors have committed a grievous mistake in this respect, which might lead those practitioners who are not familiar with scarlet fever, into error. These authors say that when the eruption is well developed, very bright, well out, to use the vulgar expression, the patient is less likely to have any serious symptoms. The contrary is true. What has been said of variola may be said of scarlatina, the severity in both is in direct ratio to the intensity of the eruption. In a discrete scarlatina, the danger is ordinarily less than in a confluent scarlatina; as in a discrete variola there is less to fear than in a confluent variola. In both of these exanthematous pyrexias, the more intense the eruption, the more serious the symptoms and the greater the danger.

This proposition is, however, gentlemen, not absolute. If the eruption of variola or scarlatina is impeded by any severe antagonistic flux, by great hemorrhages, by intense nervous perturbations, it does not take place, or appear very incompletely.

Scarlatina, I have said, in commencing does not even resemble itself. Identical, be it understood, in its essence, it is not so in its forms. In some cases, after ten or twelve hours of fever, an insignificant eruption appears upon the neck, upon the body; and two or three days after this eruption, the slight febrile movement which had accompanied it, had disappeared. The patient has hardly felt sick. Desquamation follows, by small strips or by pieces, sometimes hardly any is observed; then five or six days more and the patient is quite well, if he is not exposed to cold, or if he commits no imprudence, that is the last of it. The disease has been so simple, that it might have passed over unperceived.

Between this benign form and the severe form which I have generally had in view, the prominent symptoms of which I have sketched, we find intermediate forms, and, finally, we have malignant scarlatina, which I told you was a terrible scourge, equal to the most severe of the pestilential diseases.

Desquamation in scarlatina is a phenomenon not well under-

stood by the majority of physicians. I have shown you, this morning, two women, in one, desquamation at the seventieth day has not yet terminated; in the other, at the thirty-fifth day it is in full vigor.

Ordinarily, the red color of the skin disappears more or less rapidly. In some cases, however, the eruption is still very apparent, while desquamation is occurring in several points. It begins upon the neck and chest from the sixth to the ninth day, then it takes place upon the limbs, the back of the hands, then upon the palms of the hands, and, finally, upon the soles of the feet. It presents peculiarities upon the body, but is more apparent upon the hands and feet than elsewhere. Upon the body it occurs in quite large scales, not often more than two to three millimetres square, at other times one centimetre, one and a half centimetre and two centimetres. Upon the arms and legs, where the epidermis is a little thicker, the pieces can be four to five centimetres broad, and they can be taken off in bands as after erysipelas and phlegmons. The desquamation of scarlatina has never the furfuraceous form of the desquamation of measles. In rougeola these furfura are so small that we are obliged to look closely at it in order to see it, and often we are obliged to rub the skin of the patient with his clothes, in order to collect the white dry epidermis dust which they form. In scarlatina the desquamation presents such a significant appearance upon the hands and feet that it is impossible to mistake it. The epidermis upon the former comes off in irregular strips, of a variable length, sometimes very long, resembling pieces of a glove. Upon the feet it takes place slower, the detached strips are thicker than those from the hand, and sometimes the nails, which are, as you know, an epidermic production, fall. This is rare, but it has been observed, and Graves reports an instance.

2. NERVOUS SYMPTOMS—ANGINA, COMPLICATED WITH DIPHTHERIA —BUBOES—RHEUMATISM.

The phenomena which have particularly attracted your attention in scarlatina—those which have appeared the most alarming—are the nervous symptoms. There is something, it must be confessed, so peculiar about their intensity in this disease, that they alone are sufficient in the majority of cases to distinguish this pyrexia from any other exanthematous fever. Rougeola is never, or almost never, preceded by serious cerebral symptoms, except eclamptic convulsions, which sometimes occur, and as in fact there can be no reason for confusion between rougeola and scarlatina after the eruption has appeared, the severity of the nervous symptoms serve as a capital differential diagnosis between them.

They are present from the very beginning, appearing in the form of delirium from the very first day. I speak of what takes place in the severe type of scarlet fever; for, in the benign form this symptom is observed only in exceptional cases, where there is ordinarily great nervous sensitiveness. But in grave scarlatina

delirium is seldom absent, and when the case is serious it is as well marked as in the most severe case of typhoid fever; it appears with the eruption, persists often until the period of desquamation, or more correctly until the fever is abated.

This is by no means the only manifestation of trouble in the nervous system. It is observed also by *carphologia, gactitation, coma*, and in some cases by *coma vigil*; in a word, all the forms of typhoid nervous symptoms are met with. In children, *eclampsia* also occurs during the first two or three days, less often, however, than at the commencement of rougeola and variola. These convulsions have a very different significance than the initial convulsions of rougeola and variola; for while those occurring in variola are considered by certain authors—by Sydenham among others—(whose opinion in this respect I do not partake) as of a favorable character; while the initial eclampsia of rougeola is generally regarded as a symptom of little consequence, the convulsions which occur during the first or second day of a scarlatina are, upon the contrary, very serious. They are still more serious when they occur in the third period of the disease, when there is general œdema. We shall have occasion to speak hereafter of their signification, and to state that such cases are almost always fatal.

In adults even the epileptiform phenomena have occurred. They appear the second or third day of the disease, particularly in those who are subject to real attacks of epilepsy and who have previously had them. These initial convulsions recurring, coma follows, and death may supervene within twenty-four hours after their first appearance.

There is also another nervous phenomenon of bad omen. I mean that form of dyspnoea, which, not attached to any appreciable material lesion of the lung, is found, with its sad signification, in a great number of leptic diseases, as puerperal typhus, camp typhus, cholera, etc.; a deplorable example of which you have seen in our wards, in the person of a young woman, recently delivered, who died suddenly from scarlet fever, the history of which case I shall recall to you when we enter upon the subject of treatment.

Independently of the disorders following affections of the cerebro-spinal nervous system, there are others which depend upon perturbations of the ganglionary nervous system; perhaps the very severe dyspnœa just mentioned is itself one of these morbid phenomena.

You are all acquainted with the remarkable experiments of M. Claude Bernard upon the grand sympathetic nerve; you know that a section of this nerve produces in those parts to which its filaments are distributed, not a paralysis, but on the contrary, an exaggeration of certain functions, of calorification and secretion. The learned Professor of the College of France has shown how, by cutting the filaments of the trisplanchnic, which go to the ear and the face of the rabbit, the temperature of these parts is elevated four to five degrees centigrade above the normal temperature, and above that of the opposite side, the nerve going to which has not been operated

upon. He has shown how, by destroying the thoracic ganglions, and those of the solarplexus, effects of vascularization analogous to those observed in the experiments I have just cited are produced, which are followed by violent inflammations. He has also shown that lesions of the ganglionary system have a great influence upon the secretions. Applying to pathology the results of these physiological experiments, we conclude that whenever calorification is increased in an animal there is reason to suppose that a disturbance has taken place in the trisplanchnic nervous system rather than in the functions of the cerebro-spinal nervous system. There is assuredly no disease which is accompanied by an elevation of the temperature so great as scarlatina. If the thermometer be placed in the armpit or the rectum of such patients it will indicate 40 to 41 degrees centigrade; J. Currie has noticed 112° Fahrenheit, which corresponds to $44\frac{1}{2}$ degrees of our thermometer. This elevation of temperature can only be explained by difficulty in the ganglionary innervation, which is also manifested by disturbances in other functions which are under the control of the grand sympathetic nerve, such as *incessant bilious vomitings* at the commencement of the disease, unfavorable symptoms, which persist in some persons four, five, and six days, as well as abundant uncontrollable diarrheas, which we have often observed.

It is well to note the non-inflammatory nature of these morbid symptoms. If possessed with the idea of inflammation which the burning pungent heat of the skin would seem to indicate, you attempt to overcome the diarrhea and the vomiting by antiphlogistics, you would adopt the most dangerous treatment possible, for of all eruptive fevers scarlatina requires such kind of treatment the less, which is in fact rarely beneficial in variola or rougeola.

Besides these symptoms, we have also to indicate the hemorrhages which occur from all the mucous membranes into the subcutaneous cellular tissue. When scarlatina assumes early the hemorrhagic form, it is invariably fatal; whilst hematuria, which is so often observed in the course of this disease, and which is so often accompanied with anasarca, is a much less unfavorable symptom. You have already seen, gentlemen, several patients cured after having passed bloody urine for more than fifteen days. We shall recur to this symptom again.

I now reach the subject of scarlatinous angina. This angina is one of the most difficult affections to describe or to recognize. To point out its simple or serious forms is easy, but it is not so in regard to one of the latter forms, which we shall study in its turn, in which diphtheria complicates the difficulty, disconcerting the precautions of the physician, and gives to the angina a character of fearful seriousness.

Scarlatina is essentially anginous, if I may be permitted the expression. However benign it may be, it is very seldom that it is unaccompanied by sore throat, as it is seldom that rougeola, however mild it may be, is unaccompanied with pain of the larynx.

This pain in the throat is also met with in variola, for the presence of three or four pustules upon the pharynx is sufficient to occasion it, but variolous angina differs incontestibly from scarlatinous angina.

In scarlatina, from the very first day of the disease, the veil of the palate is red, of a tint analogous to that of the skin, a little deeper, however; the tonsils, slightly swollen, are of a violet color. The fever continues, and after two, three, or four days, small whitish concretions appear, often upon one tonsil, sometimes upon both, ordinarily of a milky white, unless the patient having vomited, they are colored by some substance ejected from the stomach. Closely examining them, after removing them by the handle of a spoon, you will observe that these concretions differ from false diphtheritic membranes; the latter, of a yellowish white, are adherent, and when you take hold of them with a pair of forceps they come off in shreds. The scarlatinous concretions are pultaceous, less adherent to the tonsils, have not the character of false membrane, and resemble much more those secretions which are found, for example, on the surface of bad ulcers.

The affection progressing, the intensity of the angina may become so great as to impede respiration, and particularly deglutition. The patient, in attempting to drink, returns the fluids through the nose; his voice is nasal, the ganglions of the neck, particularly those of the angles of the jaw, become engorged. Uninterfered with by any medical treatment, or by very slight treatment, angina disappears at the same time with the eruption upon the skin. The tonsils are freed from their concretions, remaining red, and sometimes excoriated;—the disease is cured. The throat and the tongue still remain sensitive, and this excess of sensitiveness lasts longer upon the former than the latter. The whole ends by a kind of desquamation analogous to that we have already observed upon the tongue.

Such is the ordinary, the simplest form of scarlatinous angina.

There are other severer forms, and one in particular, to which I have already alluded, which is almost invariably fatal. I ask your especial attention to it.

Some persons are seized with scarlet fever of moderate severity; they have a little delirium at night, hardly any nervous symptoms, the pulse is quite frequent, the pain in the throat is, however, slight. The disease reaches the eighth or ninth day, recovery seems certain, the fever abates, the eruption disappears, and you congratulate the family. Suddenly considerable swelling appears at the angle of the jaws, extending down upon the neck, and sometimes on to the face. A sanguous fetid, very abundant discharge, runs from the nose; the tonsils are very much swollen; the breath has an insupportable odor; the pulse suddenly becomes again very frequent, is small; delirium returns, and, at the same time, the skin becomes cold, the pulse weaker and weaker, and the patient dies after three or four days, in a prolonged agony, or suddenly, in a syncope.

How can this be explained? You might ask if diphtheria has not complicated the scarlet fever and interrupted its course. These symptoms, it is true, resemble so much the serious forms of this terrible disease, those forms, which destroy adults or children before the membranous affection has had time to extend to the larynx, the false membranes being confined to the nasal fossæ, to the ears, to the throat; these symptoms so closely resemble those which characterize those destructive forms of malignant diphtheria, that we are inclined to believe that it is not scarlatina, but this latter affection, which has taken away our patient. I am the more disposed to adopt this view of the case, because in some cases, the larynx is invaded. Graves gives some instances of persons dying from croup at the termination of a scarlatina, and others being cured of this exanthematous fever after having thrown off false tubular membranes of the shape of the trachea. Graves, citing these facts, accuses me of having misunderstood this form of scarlatinous angina; in fact, I formerly did so. I have said *scarlatina does not like the larynx*. But, during my service at the Childrens' Hospital, I observed in a great number of cases such an extraordinary identity between malignant scarlatinous angina and malignant diphtheritic angina that I have been confused in my opinion. Now I cannot help believing, although I dare not insert it, that these symptoms, of which I have just spoken, are nothing else than diphtheric symptoms, occurring at the termination of scarlet fever, as a formidable complication. Patients die, in fact, with all the symptoms of diphtheritic poisoning; general coldness, small pulse, fetidity of the breath—both by the mouth and nose—universal pallor of the skin; all symptoms which are not observed in any other serious disease. It may be that these patients being situated under particular conditions, in the midst of an epidemic, (which often happens in childrens' hospitals, where diphtheria, so to say, always prevails), it may be that the scarlatinous angina becomes the point of attraction for diphtheria, the same as a little excoriation behind the ear, as an ulceration of the vulva, or of folds of the skin, or any other wound, may, in persons situated under similar epidemic conditions, become the point of departure for diphtheria. What tends more to sustain me in this view of the case, is that of these anginas suddenly arising at the ninth or tenth day of a scarlet fever. I recall but one patient who recovered, it was the daughter of my honorable friend Dr. Caffe; while for true scarlatinous angina, even severe, commencing with exanthematous fever, and reaching its highest point about the fifth, sixth, seventh and eighth day of the disease, recovery is the rule, and often without the aid of art.

When we take up the subject of the treatment of scarlatina, I will speak of the treatment of the sore throat which accompanies it. I will now simply say that the membranous angina of scarlatina (not that malignant form to which I have just called your attention, but the simple form, which I have said is almost always accompanied with pultaceous membranous concretions), this sim-

ple scarlatinous angina acts very differently from diphtheritic angina. While the latter is mobile and tends to the nose and larynx, the former, on the contrary, is most generally limited to the pharynx, and for it I hold to the proposition condemned by Graves; *it does not love the larynx*. True scarlatinous angina is, then, pharyngeal very different from the angina of measles, which is laryngeal; or the angina of variola, which is at the same time both pharyngeal and laryngeal. The voice of those affected with it is nasal, but its timbre is sonorous; changed only in its passage through the throat, the nose and the mouth. In rougeola, the *timbre* of the voice, very often altered when first found in the larynx, is not again changed in its passage through the pharynx.

In describing the eruption, we noticed the tumefaction which accompanied it; we said that it interfered with the movements of the fingers and toes, but this tumefaction is not the only cause of this difficulty complained of by patients; it not only follows the congestion of the integuments, but is the symptom of another complication which is also met in the acute period of scarlatina, namely, rheumatism.

The *rheumatism of scarlatina* is of very common occurrence in adults, and two of our patients are at this moment affected with it. As it is not alluded to by the general symptoms of ordinary rheumatism, as it is in the greater number of cases limited to three or four articulations, principally those of the hand and the wrist, it often escapes observation. Patients seldom complain of it, and the attention must be awakened upon this point in order to discover the existence of this affection. Then upon carefully questioning the patients, upon attentively examining their articulations, upon submitting them to a certain degree of pressure, we find, in a third of the cases, perhaps, these articular pains. It is important to know this, for, in the progress of the disease, we often see acute symptoms in the region of the joints arise, general anthritis, frequently also pericarditis, endocarditis, complications mentioned by Graves, which I have myself seen, and which appear to me to be of a rheumatic nature. The rheumatism of scarlatina is also sometimes followed by chorea, which is observed in children. We shall return to this subject.

In certain cases towards the end of the disease, towards the end of the eruption, *ganglionary engorgements* appear in certain regions, principally in the neck, true *buboës* of scarlatina.

All pestilential diseases are accompanied by buboës. For instance, dothinenteritis has its mesenteric buboës; for you know, towards the ninth or tenth day of that disease, the ganglions of the mesentery may become of an enormous size, equal to a pigeon's egg. Scarlatina, which is a pestilential disease, has its buboës. Their principal seat is in the cervical region, and their evolution is determined by the lesions of the throat. From the very beginning of the disease, you will perceive ganglionary engorgements upon the sides of the neck, and at the angles of the jaw. Some-

times towards the tenth or twelfth day, independently of the disorders produced by that severe form of which I have spoken, the cervical ganglions suddenly become inflamed, the skin redens, is distended, and, in four, five or six days, a phlegm is formed. If it is opened, pus flows out, and in some cases, the cellular tissue which surrounds the ganglion, is speculated. I recollect a young lad, fourteen years old, in whom this gangrene was so extensive that the muscles of the neck were dissected, as in diffuse phlegmons, so that the carotids were seen to beat at the bottom of the horrible wound, which was produced. The patient recovered, but with a terrible deformity. Graves reports a similar case.

Analogous lesions may be produced in other regions of the body, even where there are no ganglions, at least where they do not seem to have been the point of departure for these symptoms. In the young lad just mentioned, besides the large abscess of the neck, about the tenth day of the disease a diffuse abscess of the leg appeared, which produced retraction, a considerable shortening of the tendon, leaving the patient lame, so much so, that this inferiority exempted him from military service when, six or seven years after, he was conscripted.

Scarlatina can not only give rise to these ganglionary disgorge-ments, these acute buboes to these diffuse phlegmons of the cellular tissues, during the active period of the disease, but it also can occasion *chronic ganglionary engorgements*. In infants, who are not at all scrofulous, you will observe, following this exanthematic fever, chronic ganglionary engorgements, which begin with it, and which persist for two, three and four months after its cure. In individuals afflicted with a strenuous diathesis, these disgorge-ments become scrofulous, and the ganglionary inflammations often terminate in scrofulous ulcerations.

[TO BE CONTINUED.]

On the Injurious Effects of Chloroform During Labor. BY ROBERT JOHNS, M.B., F.R.C.S.I., Chairman of the Midwifery Court, and Examiner in the diseases of women and Children, Royal College of Surgeons, Ireland, &c.

As, at the present, the subject of chloroform inhalation is again *sub judice*, I feel it incumbent upon me to raise my voice against its employment in midwifery, and to lay before my professional brethren my reasons for the adoption of such a course, which I sincerely trust shall have some weight with the unprejudiced, and which may, perchance, call the more serious attention of some, if not of all, of those now too deeply wedded to its use, to the dangerous, and too often fatal results consequent thereon; in which, if I but even partially succeed, I shall consider myself well repaid.

From experience, repeated observation, and the published, also

the otherwise expressed opinions of those who agree, as well as of those who disagree with me upon the subject, I am firmly convinced that chloroform, when inhaled during labor, very fruitfully predisposes to haemorrhage, puerperal inflammation, chest affections, and to other diseases detrimental to health and life, which it aggravates if given during their presence. It also lays the foundation of disease to arise at a more distant period, and thus increases the mortality in childbed, and subsequent thereto. I have known puerperal inflammation frequently to have followed its inhalation, and too often with a fatal result; in fact, some years since, when it was more fashionable, and was given with a more lavish hand, a great mortality obtained amongst the patients of some few men who administered it—so much so that a popular outcry was raised against its employment. In the majority of these cases, puerpeal fever was the cause of death, which, when thus raised, being, as I firmly believe, always infectious or otherwise communicable, became epidemicized, after which even those who wisely refused the drug, “charmed it never so sweetly,” were thus inadvertently, and, in some instances, hopelessly poisoned.

In support of these positions, I shall first refer to the several published Reports of the Dublin Lying-in Hospital. We find, on reference thereto, during the masterships of Drs. Collins and Johnson, when chloroform was not inhaled, that the mortality was much less than during that of Dr. Shekleton, when this pernicious drug was used—as thus:—In the first report are recorded out of 16,414 deliveries but 164 deaths, or 1 in 100; in the second, out of 6,634 deliveries but 65 deaths, or 1 in 102; whereas in the third, 13,748 deliveries are given, and 163 deaths, or 1 in 84!! But of these last cases 13,406 of them were not chloroformed, of which only 133 died, or 1 in 100, but of the remaining 342, who took the drug, 30 died, or 1 in 11!!! If, again, we examine the reported cases of chloroform administration by Simpson and Denham, we shall find that of 245 cases mentioned by the former, 5 died, or 1 in 49; and of 56 by the latter, 5 died, or 1 in 11!! And, by adding all these recorded cases together, we have a mortality on the whole of 1 in 16!!! By again consulting those reports, we perceive that in Dr. Collins' mastership there occurred 79 cases of post partum inflammation, or 1 in 169; in Dr. Johnson's, 62 cases, or 1 in 107; but in Dr. Shekleton's, 150 cases, or 1 in 91. Of those 150 cases, 20 followed upon chloroform inhalation, or 1 in 17!!! and in the remaining 130 cases, in which it was not employed, the average mortality was only 1 in 103. In Denham's report we find 4 cases, or 1 in 14; which, with all the recorded cases, strikes an average of 1 death for every 16½ persons who took chloroform!!!

We also find that during Dr. Collins' mastership, puerperal convulsions proved fatal in the proportion of 1 in 6; whereas in that of Dr. Shekleton, when under chloroform, it amounted to 1 in 3!! and in Denham's cases to 2 in 3!!! or, on the whole, to 1 in 2½!!!

It appears that, during Dr. Shekelton's tenure of office, post partum haemorrhage occurred but once in every 257 cases when

chloroform was not used; yet after its inhalation this complication was present in 1 of every 49 cases. In Dr. Denham's report it was present in 1 of 19 cases; making, on the whole, an average occurrence of one case of flooding in every 39 4-5 cases that had taken chloroform.

With respect to the mortality after perforation, the report of Drs. Hardy and McClintock shows 1 fatal case in every 6, and that of Drs. Sinclair and Johnston 1 in every 5; but if we go a little below the surface in the latter report, and examine into 99 cases of perforation, all of equal severity and danger, we shall discover that of the 29 cases in which chloroform was inhaled 9 died, or 1 in $3\frac{1}{2}$; puerperal inflammation occurred 10 times, or 1 in every 3 cases; and haemorrhage followed in 3 cases, or 1 in every 10; whereas, of the 70 cases in which this drug was not employed, only 6 women died, or 1 in every 12; puerperal inflammation arose only in 3 cases, or 1 in every 23; and in no case did haemorrhage occur.

Many have testified to the fact that uterine action has been lessened, and even caused to cease, by anaesthetics; as also that their effect on some is not commensurate with the quantity of the drug employed—thus: a very large amount not having any effect upon some, whereas the inhalation of a very small dose, even of a few drops, has produced almost deep coma in others. Dr. Denham says:—"In some, if left to nature, the labor would probably have been completed in a somewhat shorter space of time. The advantage to be gained by chloroform in some cases will not be found an adequate compensation for the loss of power sustained in the muscles of animal and organic life; and, were we to continue its use, I do believe that patients would remain undelivered for hours, or even days. The cases that apparently require it most—tedious and difficult labors—are those where it often appears to be injurious, by weakening the pains or relaxing the muscles of animal life." Rigby says:—"We meet with cases, every now and then, where chloroform undoubtedly retards labor, and in some cases likely to call for the use of the forceps."

Dr. Robert Lee mentions cases in which "uterine contractions were arrested, requiring the use of the forceps, and the destruction of the child by the perforator."

Tyler Smith "has seen chloroform stop labor midway."

In some of the cases recorded by Sinclair and Johnston, uterine action was impaired.

My friend Dr. Young, of Monaghan, says, in a letter to me:—"I believe chloroform in many instances to delay the labor, by causing the pains to come at longer intervals, and rendering the expulsive efforts of the patient less efficient, owing to her insensibility to suffering."

Merriman has mentioned a case in which the uterus was so paralyzed that it failed to act afterwards.

Snow says:—"It is true that a full dose would, at any time,

suspend uterine action for a few minutes, or as long as it might be kept up."

On looking into Drs. Sinclair and Johnson's report, we find "two cases in which version was very difficult: and two others in which that operation was impossible, where chloroform had been inhaled."

Murphy thus speaks:—"In a case of version, I never experienced so much difficulty, in consequence of the strong contractions of the uterine fibres about the child."

Barnes remarks:—"In many cases it does not facilitate the operation of version, the uterus resisting the introduction of the hand."

Puerperal, hysterical, and epileptic convulsions, mania, paralysis, and insanity have followed on its use. Cases are recorded by Montgomery, Sinclair, and Denham, in which puerperal convulsions occurred after its employment, Sinclair gives two cases of hysterical convulsions, in one of which violent muscular action was induced and restlessness continued for a considerable time after the inhaler was removed.

Murphy states that, "in dentistry, hysterical women have been seized with fits when under its influence."

Snow asserts that "hysterical patients, as soon as they lose their consciousness from the effects of the vapor, are sometimes attacked with a paroxysm of hysteria."

Dr. R. Lee says:—"Epilepsy has been so induced."

Sinclair records one case of epilepsy.

Snow and M. Fix have stated "that persons subject to epilepsy are likely to have a fit brought on by inhaling chloroform."

Ramsbotham "saw three cases of puerperal mania so caused. A friend of his also saw one similar case."

Sutherland "met three other cases similarly produced."

Tyler Smith stated "that he had seen mania from its use."

Parks relates the case of a lady who had chloroform in her third labor. "She, after delivery, complained of violent pain in the head, became delirious, tore the nurse's gown and the bedclothes into pieces, and was perfectly maniacal."

Mr. Banner thus speaks:—"A patient became delirious, and continued so during the day and a greater part of the night, after its use."

Haartman "saw a case of headache terminating in paralysis, caused by this drug."

In one of Dubois' published cases, numbness of the fingers, and in another the same condition of the legs, supervened, and had not subsided at the end of twenty-four hours.

In Denham's report I find one case of coma after chloroformic inhalation.

Dr. R. Lee says "that insanity has followed on its employment; that dangerous and fatal peritonitis and phlebitis have been caused by its inhalation."

Two or three of Denham's cases were seized with rigors; and

Lee mentions others with dangerous fits of syncope; and in this he is borne out by the following, which I find recorded amongst Denham's cases:—"While inhaling, the pulse became very weak, and she gave no signs of consciousness; and immediately on the birth of the child the respiration of the patient ceased, and the pulse became imperceptible; the application of cold water to the face soon revived her, and she went on favorably for some days; but diarrhoea, with extensive inflammation of the mucous membrane of the ileum set in, and she died on the fourteenth day."

Sinclair and Johnson record nearly a similar case, as thus:—"The pulse suddenly became imperceptible, and respiration appeared to have ceased. She subsequently died of phlebitis." And they give another in which collapse occurred, and she also died with symptoms of phlebitis.

Dr. Barnes stated—"That he had himself given chloroform to facilitate the extraction of an adherent placenta, and had witnessed such exceeding prostration for eight hours afterward, as to make him, and another practitioner who assisted him, apprehensive of the instant death of the patient."

Many are of the opinion that the inhalation of chloroform predisposes to laceration of the perineum; indeed, some of the published cases would tend to favor this idea. In Sinclair and Johnston's report we find that, in the recorded cases, it occurred once in 27 cases; and when not employed, the accident happened only once in 93 cases. In the same work we find three cases of chest affection aggravated by this means, two of which succumbed.

Dr. Ringland, in reply to a letter from me, writes:—"I have seen chloroform frequently used in puerperal convulsions, and have used it myself in connection with the practice of the Coombe Lying-in Hospital; and the conclusion I have come to is, that I will never again use it, or sanction its use, in puerperal convulsions. I have observed that however satisfactory its employment may appear at the time, it has been almost invariably followed by bronchitis within about 48 hours, and that patients have sunk rapidly under the latter affection. I have seen this so frequently that I cannot but look on chloroform and bronchitis, under the circumstances I have named, as cause and effect; and the mortality from the subsequent bronchitis, as the actual result of the employment of chloroform."

Ramsbotham relates the case of "a lady who was seized with dyspnoea, with excessive lividity of the face, and all the signs of engorgement of the lungs and heart, and died in convulsions six hours after."

Murphy has published a case nearly similar; he also admits "that vomiting, nausea and headache sometimes follow on in its use." Nausea and vomiting were also present in one of Denham's cases.

Rigby states, "that intense headache, and even vomiting are consequences of its use."

Parks gives the case of a lady, in whom, after chloroform inhala-

tion, flooding came on to a fearful extent, and incessant sickness. He managed to extract the placenta; and, owing to the feeble contractions of the uterus (and this latter condition, he is confident, it often produces), he has kept grasping it for four or five hours; the vomiting continued for eight hours without intermission; the headache remained for weeks.

Tyler Smith "believed that post partum hemorrhage and retention of the placenta occurred more frequently after its use than without it."

Montgomery was of opinion "that it predisposes to retained placenta and hemorrhage."

My friend Dr. Young, before alluded to, says:—"I have blamed it for causing a longer retention of the placenta, and for occasional after-hemorrhage, owing to the lazy and inefficient contraction of the uterus. After its use opiates have very little effect; even very decided doses, in any form, have not been followed by that tranquility I have hoped for, in that violent pain which I have so often found to follow operations when chloroform had been used."

Murphy speaks of being obliged to press upon the uterus to expel the placenta, in two cases, after chloroform.

Some of the loudest advocates for chloroform inhalation in labor have, in order to counteract its deleterious effects upon uterine action, recommended the co-administration of ergot of rye; which practice reminds me of the astute physician who, to be sure to hit his patient's disease, prescribed for him the combination of a stimulant with a sedative.

Cusack and others have also testified to the deleterious effects of this drug upon the cerebro-spinal system of that infant.

Dr. Aveling speaks of "a lady who had chloroform in three labors, all of whose children, when unwell, had for years afterwards the smell distinctly off their breaths. This lady would never take it again."

Dr. Jackson (an American) thus writes upon the subject:—"When chloroform is inhaled into the lungs, the oxygen is abstracted from the blood, and, combining with the formyle, makes formic acid, while the chlorine combines with the blood as a substitute for oxygen. Thus a portion of the blood becomes chemically changed, disorganized, and rendered unfit for its vital functions.

Denham says:—"There are cases in which chloroform appeared to be not only useless, but, when persevered in, positively injurious." And again:—"In giving chloroform we incur a certain amount of present danger, and perchance of remote ill effects."

Dr. Robert Lee, in reply to a letter from me, says:—"I could give you a great number of cases in which chloroform was not only injurious, but fatal."

Dr. Gream said:—"He agreed with Dr. Lee in saying that we were unacquainted with *one-tenth* of the evil effects which had resulted from the use of chloroform, particularly in Scotland."

Dr. Duncan, in a letter to Dr. Lee, thus writes:—"Your case of chloroform death in midwifery is, to the best of my belief, not the only one in Scotland. I was called, too late, to a case which died suddenly while taking it in *small quantity*."

Dr. Campbell, of Ayrshire, records another case of death in labor from its use. Mr. Carter says "that in two cases its effects would appear to have been pernicious."

Prof. Faye, of Christiana, has also recorded a fatal case of labor after its use.

Dr. Rogers said "he knew of a case where death took place apparently in consequence of its use in midwifery."

Dr. Barnes says:—"In ordinary forceps cases chloroform certainly is not required, either to facilitate the operation or to allay pain. Indeed by its use in such cases we lose one very valuable indication in the loss of our patient's sense of feeling."

Dr. Chas. Kidd does not consider its use devoid of danger, as he advises the physician who administers it "*always to carry in his pocket a portable galvanic chain or battery*."

Drs. Kidd and Richardson are reported as having seen many deaths after its employment; and the former gentleman "to have seen about 300 cases restored to life or rescued after they had been pronounced dead."

I would ask, in the name of common sense, is it within the bounds of reason to believe that a medicine can be employed innocuously with the pregnant female, when confessedly its use has often been followed, not only by dangerous, but even fatal results under other circumstances, as testified to by Drs. Kidd and Richardson, amongst many others, as also by almost every periodical we take up.

We have been told that across the Tweed death has not, in any instance, followed upon the inhalation of chloroform in labor, whereas some have been since recorded; and not very long ago I was informed, by more than one physician practising in Scotland, that many have so occurred there, but not made public, yet well known to the profession.

It is also a fact that some who have written favorably on its use have since changed their opinions, but have not said so publicly. Some give it only in name, or as it has been styled *a la Reine*, making their patients believe that they are saved from a vast amount of pain, when in reality they have scarcely inhaled a single breath of it.

We frequently see better and safer recoveries after tedious and painful than after rapid and painless labors, and the latter are not the less likely to be seriously complicated; indeed in former days, when, happy for the perturient female, chloroform was unknown, and when meddlesome midwifery was strongly reprobated, such an opinion was entertained.

Even though it were possible to divest chloroform of its dangers, it does not, as has been already shown, always produce the

advantages expected from its use, as in version; for indeed not a few instances have been recorded of its having been an impediment to this operation, which in some cases, could not be overcome. I cannot see any advantage derivable from the inhalation of this poisonous drug in cases of retained placenta, as generally such a complication is caused by inaction of the uterus; and our object, therefore, surely not further to paralyze it.

Every practical man hails after-pains as salutary, especially after quick and painless labors, and would not dream of interfering with their wholesome action, unless very severe, for some hours after delivery; yet those misguided chloroformists think nothing of interfering with that safe action at times when the advent of hemorrhage would complicate matters more seriously. The other objections to its use at other times, under certain circumstances, are equally admissible here. I think I have now demonstrated not only by my own experience but also by some of the highest obstetrical authorities in the land, that chloroform inhalation is far from being a safe remedy in childbed, and should not then be employed.—*Dublin Quarterly Journal of Medical Science.*

Editorial and Miscellaneous.

The Commencement Exercises of Starling Medical College were held in the Congregational Church on the evening of the 1st of March. The Commencement Address was delivered by A. D. LORD, M. D., Superintendent Blind Asylum; the Valedictory by Prof. HAMILTON.

The Degree of Dr. in Medicine was conferred on the following gentlemen:

A. W. Wells, R. M. Morris, R. C. Downey, Chas. E. Poe, John M. Evans, John W. Holmes, U. B. Brisbine, W. D. Crumley, John S. Gard, W. B. Boyd, J. P. Schilling, W. P. Bean, Chas. Quinn, B. F. Leslie, E. M. Downs, Jas. McClure, J. C. Batdorf, L. H. Gratigny, John N. Booth, Chas. R. Morgan, C. J. Hagan, Jas. A. Sampsell, H. H. Price, J. Palmer, J. J. McConkie, A. J. Murbach, Matthias Cook, George Willis, Calvin D. McDonald, J. A. Smith, Wm. W. Bickett, J. R. Kelch.

The class of the past session was larger than for several years. The material composing it, too, was very good.

In this connection we may say to the alumni and other friends of Starling College, that the institution is now in a flourishing condition. Its facilities for instruction are as good as can be found anywhere. The Museum, although not as large as some, nevertheless contains some of the finest things in the world, and it is in the constant receipt of new additions. The Anatomical and Chemical departments are very bountifully supplied with every thing necessary to their illustration; and these fundamental branches receive the prominence in the course to which they are entitled.

The present number of the Journal is so much occupied with original matter that we are compelled to postpone "Notices" and "Reviews" until our next.

To Subscribers.—We again remind our subscribers that *business* communications should be addressed exclusively to Prof. T. G. Wormley, who now has charge of that department, and is giving it the attention it has so much deserved.

Advice to Medical Students.—Next to a knowledge of the profession, or even before it, the way to succeed in medicine is to possess a knowledge of human nature. That is to be got by living in public; by incessantly mixing with your fellow-creatures, watching their peculiarities, imitating their excellencies, avoiding their foibles, and behaving yourself with truthfulness, frankness, generosity and plain dealing. Shy men do not get on well in the world, nor do absent men, nor do people with a reserved and distracted air, nor slow, awkward men, nor people who hedge, and trim, and potter, and never give a plain answer to a plain question, and never seem able to form a positive opinion and stick to it. But the sovereign cure for all these infirmities is the course we recommend. Verify all facts by your own senses; never be a mere book-worm, and never prefer solitude to good society.—*London Medical Times and Gazette.*

We have seen proper to transfer to our columns the above extract, which we find in an eastern medical journal, and which

stands accredited in it to the *London Medical Times*. We have done so for the purpose of noticing what we consider a large amount of error mixed up with a very small amount of truth. It not unfrequently happens that a single paragraph like the above, nay, even a single sentence, will so forcibly impress itself upon the mind as to give bias to the whole tenor of life. And our remarks may, moreover, be considered as not unappropriate at this season of the year—the closing term of most medical colleges—when the anxious mind of the medical student is looking forward, with no little apprehension, to the time when he shall take his stand on the active theatre of life, and is alive to everything which may have any bearing on the end and aim of his studies—professional success.

No language can magnify the importance of starting on a professional career, with correct views of what constitutes a success, and how to obtain it. If it be our aim and desire merely, to obtain by some means, an extensive, and even lucrative business, without reference to the means by which it is secured; if, in other words, we lose sight of the great end and object of our noble science, and pervert it to purposes utterly selfish and mercenary, the advice given in the above extract might not be considered out of place.

But we humbly conceive that no one who has the true interest of the medical profession at heart, would advise a student to base his expectations of success upon any other foundation than an adequate knowledge of his profession. It is true the social element of success is not to be despised, but it should at all times be subordinated to our faithfully and intelligently filling the measure of what is expected in these days of a learned and dignified profession. The avenue to a successful and honorable career as a medical man, does not lie through the crowded haunts of fashion's votaries. It is not to be obtained "by living in public" or incessantly mixing up with your fellow creatures, except as our professional or social duties require us. Far be it from us to advise that any man should sink his humanity in his trade or calling, or that he should be ignorant of, or refuse to take his share in the leading social or reforming enterprises of the day. But to seek notoriety as a means of professional advancement, to be constantly seen in public places, to be a hotel lounger, a political agitator, a frequenter of billiard saloons, or any other kind of saloons, or to

be spending his time in watching the peculiarities of others, and endeavoring awkwardly to imitate their excellencies, when he should be honestly and frankly acting out his own, is not the course of life which usually leads to the attainment of an extensive medical reputation. There is no pursuit, not even excepting the law, which is so exhaustive of the powers and resources of the human mind, as the science of medicine. To a successful devotee it gives no time for such dalliance with the toys of social life. So exacting is it, that it affords him but little time to bestow even on other kindred sciences, and if he would be thoroughly versed in his own, he must forego much of the pleasure which a more intimate acquaintance with them would afford him. To a medical man there is nothing of so much importance as a distinguished medical reputation; but, to be available, it must proceed from an appreciation of abilities and acquirements, which really exist, and not a fictitious celebrity. It is no real abiding advantage to any one, to be placed in a position in which he cannot honorably and with credit sustain himself. It only renders his weakness and failure the more obvious and glaring. The very surest means of securing success in any enterprise, is to deserve it—it is emphatically so in medicine. Furthermore, a man's success, as a general thing, is a measure of his capacity—we use the word capacity in its fullest significance. We are often prone to place a higher estimate on our deserts, than those who are at least more impartial, if not better judges, of them than ourselves. True merit and skill, with any reasonable degree of energy, must eventually succeed. If a man really can stay the iuroads of disease, and prolong life more successfully than his neighbor, the public will not be long oblivious of the fact; and if he is deficient in the essential qualities of his profession, no merititious aid or support will redound to his lasting advantage.

We did not commence this article with a view to writing an essay on medical ethics, or go into an exhaustive analysis of the advantages of, and means of acquiring an extensive medical reputation.

Our object is simply to controvert the idea that it lies outside of a man's professional life, that it is to be secured, as intimated in the above paragraph, by making a public exhibition of ones self, to the neglect of those higher and important duties, which imperiously demand our time and our attention.

Our advice, after more than a quarter of a century's active practice, and extensive observation of others, is, to make yourself, by careful, judicious reading, and every other means and appliance within your reach, thoroughly proficient in your profession.

When not engaged in the discharge of your professional duties, your place is in your office.

Do not lean upon any adventitious or extraneous aid, but make your influence be felt by the force of that power which always proceeds from superior knowledge and skill.

Be candid, truthful and honest, neither deceiving the patient, the friend, or yourself.

Never, under any circumstances, allow yourself to be drawn into detraction of your brother practitioners, and always be willing to concede the possession of merit where it really exists.

And, lastly, be thorough, work up your business; treat every case as though your entire success depended upon it. This is, perhaps, *ceterus paribus*—the most important element of all.

R. M. D.

Indians of San Diego County, California. By ACTING ASSISTANT SURGEON D. B. HOFFMAN, U. S. A.

The Indians which inhabit San Diego County formerly evidently belonged to one tribe. The genuine name of that tribe, when the whites first visited this coast, was "Los Cayotes," and they recognized Juan Antonio, at least so says their history, as their chief. He then resided in the mountains north of Warner's Rancho, at a place called by them "Cayotes." This old chief's family still resides there, and one of his sons is the acknowledged chief of the tribe yet, bearing the same name. It is said, by the early Spanish writers, that the name of this tribe comes from the fact that these Indians, when first discovered, lived mostly in caves or burrows under ground, like the animal from which they take their name; and, I am told that, in the wild mountains, they still live in the same manner. This tribe, at the time of which I write, was probably much more numerous than at present. They scarcely number now, all told, four thousand. The Old Missions, established here during the latter part of the last century by the Catholic Missionaries, attracted many of them away from their old haunts and hunting grounds. When once initiated at a Mission,

as a neophyte and laborer, the influence that, to the uneducated mind, attractive religion, and the easy mode of life which they led, wholly weaned them from their forest homes. The consequence was, that the once large tribe, acknowledging allegiance to one chief, was divided and broken up into many small tribes. Wherever there was a Puebla or Mission, there would be found one of the small tribes located in the vicinity, in what they called the *rancheria*. When once settled in this manner, they appear to have renounced all allegiance to their old principal chief, as they chose a chief for themselves, who resided amongst them. But he, as a general thing, had little to do in their government; perhaps, now and then, they would apply to him, but oftener they would go to the civil authority or the priest of the Mission with their complaints, and for redress of their wrongs. Thus they became a disorganized and miserable people, who were slowly allured from one step to another downwards, until quietly subdued by the meanest of motives—mercenary gain—into beasts of burden, “hewers of wood and drawers of water”; for they were made more literally slaves by the sycophantic priests who once “lorded” it over this country, than the most abject African negro that was ever heard of. Now and then, during this period, some of the more vigorous and active chiefs, ambitious to regenerate their race and retrieve it from the terrible thralldom into which it had been merged by superior but more brutal minds, would essay a revolt or revolution, on a small scale; but Spanish muskets and bayonets easily and quickly quelled them.

After the days of the Missions came another evil, greatly to the detriment of the poor Indian, and which well nigh exterminated them. This evil was the settlement of the country, over which they were used to roam without restraint, by the white man. With the advent of this predominant race came the precursor of the dissolution of the red children of the forest, in the shape of “fire-water,” and those low, revolting diseases, known only to the low, dirty dregs of society—rakes, harlots and libertines. At the present time there are but few of them who are not either drunkards or diseased in such a way that life is but a curse to them. Those that are still living about the towns and missions have assumed civilized habits to such an extent that there is nothing interesting or peculiar about them. Those living in their old haunts, in a still semi-savage state, have many curious and singu-

lar customs, habits and traditional legends. Their habits of life are all very simple. They live in villages, often numbering many wigwams or huts. These are generally built by driving long poles in the ground, and bending them over, so as to form an arch ; these are then thatched with straw all over, except a narrow hole in one end, which serves the purpose of a door. These villages are usually found near some stream, where there is a sufficient extent of good tillable land, for garden, agricultural or grazing purposes. They generally have a few head of horses, cattle and sheep, and frequently cultivate large fields of grain and fruit. Still they are somewhat nomadic in their habits, spending the summer in the mountains, and the winter on the coast. They also have a custom of coming down on the coast every year, at a certain time, for the purpose of taking their year's supply of fish. Instinct or experience has taught them that, at a certain season, millions of fish frequent the shore of the ocean, from some unknown cause, even to philosophers, and that, at that time they are easily taken. Rude nets or seines, manufactured from the tenacious bark of the "*tione*" tree, are generally used in taking them ; and they are so expert and successful that the atmosphere is rendered pestiferous, for days at a time, in the vicinity of their fishing camps, from the refuse and surplusage, which they cannot cure before putrefaction takes place. This season does not generally last more than two weeks, at the end of which time both the fish and the Indians disappear from the coast for the year. In their conjugal relations they are like the "Mormons." When a brave desires a wife or wives, he, like a true *Yankee*, goes to the parents and bargains for them, the same as he would go to a store for tobacco or whisky. The price is generally a horse, or the value of one in something else. Their laws allow them to keep as many wives as they can support, and also permit them to separate, or voluntarily divorce themselves, whenever either party, from any cause whatever, becomes dissatisfied with the other. This, of course renders their morals corrupt and bad. Fidelity is unknown amongst them, and they think it no sin to "cuckold" their husbands, if they divide the spoils with him. In fact, he is so low in this respect that he will frequently hunt a bargain of this character, that he may get a drink of rum thereby.

They have many fetes or festivals, or, as they call them in their language, "pow-wows," during the year. These frequently end in

bloody fights, when many are killed. One of these feasts, which I have never yet seen a description of, and which, I believe, is not practised by any other known tribe, is of so extraordinary a character that I deem it worthy of description. As soon as the young female arrives at the age of puberty she is put, as it were, under the guard of an old woman, who closely watches her until menstruation commences. As soon as this is noticed, the tocsin is sounded for a *tatamado* feast. It is obligatory upon the whole tribe to attend upon this occasion. As soon as they get together, they first dig a hole in the ground, large and deep enough to take the poor girl in up to her neck. The whole tribe, except the managers, during this time, are drinking, carousing, and dancing in a circle around the scene of operations. After the hole is finished, it is filled up with dry wood, fragrant leaves and bushes, in such a manner as to be lighted from the bottom. On the announcement that everything is ready, one of the old men of the tribe, a kind of prophet or priest, steps slowly forward toward the pile, with torch in hand, pronouncing, in a loud, clear tone, an incantation, which, for sublimity and pathos, is scarcely ever equaled by our more accomplished but less natural divines. As soon as the old man is through, a rude chant is hummed by the whole assembly. When this is closed the torch is applied, and as the flames arise heavenwards, the whole circle, on bended knee and uplifted face, pour forth, in unison, a devout prayer for their future preservation from all evil. As soon as this ceremony is finished, the hole is filled or strewed over with fresh green fragrant leaves. The poor Indian girl is then placed, by force, in the hole, and covered up to her neck with the fresh earth just taken out. The heat left from the fire is frequently so intense as to make the poor thing writhe and howl with the most intense and burning pain for hours. No matter; the feast goes on, and the howl of the participants drowns that of the victim. She remains in this situation—without any food, or anything else but water, which is given to her frequently and freely, or she would die—immovably fixed in this hot, seething, vapor-producing hole for forty-eight hours. During all this time, dancing, singing and carousing of all kinds are kept up by the tribe around her. When she is taken out, of course she is more dead than alive, and she is taken by the old woman to a comfortable place, when she is restored and revived by the "medicine man" of the tribe. This is the signal for the breaking up of

the feast, and all retire. Thus the mothers of the fair daughters of the forest "bring out" or notify to the world that their daughters are marriageable. It is true that there is some difference between this method and the fashionable one now in vogue in bringing out a *belle* in New York; but when one reflects that the same end is obtained—a husband—by either process, it is extremely difficult, in the abstract, to realize the difference. The women, as a general thing, marry at an early age, while the men seldom do so before their twenty-fifth year. Like Zenobia, there does not appear to be much love on either side, and they say that there is no enjoyment in the whole affair, but that it is a necessity of nature for health and for the propagation of their species.

But little information can be obtained in relation to their diseases. During the spring and autumn, fevers of different types prevail, to some extent, among them. I have seen them sick with the common intermittent, bilious and continued fevers. Diseases of the chest, also, prevail to a considerable extent during the winter months. The exanthematous diseases play sad havoc with them when they come along. Their filthy and exposed manner of living will not do for this class of diseases. Of remedies they have, or at least use, but few. Each rancheria has a *sweat-house*. This is made by digging a large hole in the ground, and covering it over with timber, brush and earth, in the shape of a cone, making it air-tight, with the exception of a small hole in the top, for the escape of smoke. In this hole, which they dignify with the name of "*sweat-house*," or *casa de sudor*, when anything is the matter with them they keep a good fire, which keeps the place so warm that any one who enters will, in a few moments, sweat terribly. After the patient has sweat sufficiently to satisfy their ideas of treatment, he strips off his clothing, and rushes out as if mad, and jumps into the river, lake, or some other place filled with cold water. As soon as this becomes insupportable, he jumps out and runs or jumps about, until reaction takes place. After this terrible ordeal, he drinks herb tea, &c., and if he is not cured, repeats the same dose every day, until he gets well or dies. This is the treatment for most of their diseases. Last winter one of them had the smallpox: he tried this remedy. It did very well until he got into the cold water, where he died before he could get out. I have seen them come out of these *sweat-houses*, seething and sweating at every pore, in the winter time, when there was snow on the

ground and ice along the margin of the river—and plunge into the cold water, as if it were nothing. How they can stand the sudden shock, I am unable to discover; but they do it with as much *nonchalance* as a Frenchman affects a duel.

For gonorrhœa they use a strong decoction of an herb that grows very plentifully here, and is called by the Spanish "chancel agua," and wild pigeon manure, rolled up into pills. The decoction is a very bitter astringent, and may cure some sores; but that it fails in many, I have undeniable proof. In syphilis they use the actual cautery—a living coal of fire applied to the chancre—and a decoction of an herb, said to be something like sarsaparilla, called rosia. It does not grow in this vicinity, and as I have never been able to get hold of any of it, I can say nothing about its medicinal virtues. It also frequently fails to cure this disease, and they have to get other aid or die. This completes the list of their medicines, if we omit the "charms," &c., which their "medicine men" alone know the value of, and use very profitably at times.

The accouchment of the female is somewhat different from the usual mode practiced by other tribes. A few hours before the time arrives, she gets up and quietly walks off alone, as if nothing extraordinary was about to occur. In this way she deceives all, even her husband, and hides herself away in some secluded nook, near a stream or hole of water. At the foot of a small tree, which she can easily grasp with both hands, she prepares her "lying-in" couch, on which she lies down as soon as labor pains come on. When the pain is on, she grasps the tree with both hands, thrown up backwards over her head, and pulls and strains with all her might, thus assisting each pain until her accouchment is over. As soon as the child is born, the mother herself ties the naval-cord with a bit of buckskin string, severing it with a pair of scissors prepared for the occasion, after which the end is burned with a coal of fire. The child is then thrown into the water; if it rises to the surface and cries, it is taken out and cared for; if it sinks there it remains, and is not even awarded an Indian burial. The affair being all over, she returns to her usual duties, just the same as if nothing had happened, so matter of fact are they in such matters. During the time which I had lived here I have never heard of one of these females dying from the effects of parturition. When any of them die they are generally respectably buried; but the hut and all the effects of the deceased are burned. Even

his favorite horse is sometimes killed and committed to the flames, to appease, as they say, their great grief.—*San Francisco Medical Press.*

On Dislocations of the Thumb.—J. C. Wordsworth Esq., reports three cases of this dislocation, in the *Med. Times and Gazette*, showing that the difficulty of reducing them arises from the malposition of the tendon of the long flexor. The first was a compound dislocation of the first phalanx of the thumb, produced by a fall on the extended hand, the phalanx being on the dorsum of the metacarpal bone. A wound extended across, and opened the joint on its palmar aspect. After failing to effect its reduction by simple extension, a close scrutiny of the wound showed the tendon of the long flexor between the ends of the bones, having passed round the ulnar side of the end of the metacarpal bone, and by traction been drawn across the joint. Attempts to remove the tendon from its new position being unsuccessful, it was divided with a bistoury, and reduction easily accomplished, no displacement recurring. The second case was a simple dislocation upwards and backwards of the first phalanx of the thumb, with no displacement of the tendon; it being easily recognised stretching over the metacarpal bone, and drawn away from the first phalanx by the altered position of that bone. In this case reduction was effected by simple extension, only slight force being necessary to restore the bones to their proper position. The third case was a simple dislocation of the first phalanx upon the dorsum of the metacarpal bone. No trace of the tendon could be discovered. Attempts to reduce the dislocation by extension were made, and renewed, but failed. He now endeavored to replace the tendon by the following procedure, which he had previously devised: The wrist being fully bent, so as to relax the long flexor tendon, let the surgeon take the thumb in one hand and abduct it from the fingers, while with the other he steadies the metacarpal bone. He then is to rotate the thumb, so as to make the tendon retrace its course *forwards* and *inwards* around the lower end of the metacarpal bone, using the first phalanx as a lever in this intention. If this do not succeed, let him hyper-extend the first phalanx, so as to stretch the flexor tendons, rotate the phalanx *outwards*, and then carry it round the *inner* tubercle of the metacarpal bone, so as to dislodge the

tendon from between the ends of the bones." By adopting this course, the tendon was readily replaced, coaptation restored, and no tendency to displacement left. Since his attention has been directed to these cases, he has had reason to believe that dislocations of the fingers at the metacarpo-phalangeal joints, are also complicated by the malposition of their tendons; and has succeeded in reducing them by mere manipulation after considerable force had been vainly applied.

Literature in Medicine.

"It is a noticeable fact that the greatest physicians have always been the best writers among physicians."—ZIMMERMANN.

There is an anecdote current that a New York physician, recently traveling abroad, met a distinguished Parishian surgeon, to whom he spoke in somewhat laudatory terms of his preceptor, a well known American surgeon. "What has he done?" was the prompt inquiry of the foreigner, adding, "I don't remember to have read any of his writings." "It is true, he has never written anything," replied the puzzled American, "but then he has a very large business." "And is that the standard by which you estimate professional excellence?" retorted the surgeon, with look and gesture expressive of contempt.

There is in this incident a world of meaning. It sets forth vividly a national trait in our profession, which disgraces us individually as a body. We are proud of being called practical, having no time to write, on account of the severe pressure of our business engagements. The young man who, after being located half a dozen years in practice, still goes on foot, is set down as a failure. There is no hope of his ever rising to a level with the aristocracy of his profession. It matters little what may be his scientific attainments or his moral worth; he is an object of pity, if not of contempt. Men in high and influential positions frequently boast of their incomes, and exhibit their list of daily calls, or their bank-books, as an evidence of success. Half of the gossip in professional circles relates to the income of individuals.

These false ideas of professional success have taken deep root among us, and are bearing bitter fruits. The recent graduate is driven to seek business as the first great desideratum. He abandons the pursuit of special studies, for which he may have a pre-

dilection, because they will not immediately "pay." He cannot afford to labor patiently in the pursuit of knowledge, and let business come as its sweet reward. Like Ortugal, he demands that "the golden stream be quick and violent." If patients do not immediately seek him, he goes out into the highways and byways and compels them to come in. At all hazards he must have the appearance of business. Urged on by this infatuation, he assumes all the externals of success. His mode of living, and his equipage, are often far beyond his income, but he lives in the hope that these glittering baubles will advance his business, and in the end reimburse his outlay. He *may* attain the summit of his ambition, and acquire the largest practice in the community; but it is not improbable that he will sadly fail. But, whether he succeeds or not, he is lost to the science of his profession. He may seek positions in hospitals, schools, and societies, as collateral aids to success, but in every position he is a nonentity. His name may be trumpeted throughout the world, but no man of education will even recognize it. He dies and leaves behind him no memorial but the perishable marble. A short generation passes from the stage, and his memory is swept forever from the earth.

It is time the profession of this country set up a higher standard of merit than that now so generally adopted. We should pay homage only to genuine worth. The palm of excellence should be given to him who has the profoundest practical knowledge of the science and art of medicine, and who makes that knowledge available to others.

As a profession we should not only cultivate science, but we should also cultivate literary taste. History and observation prove the truth of Zimmermann's remark—that the greatest medical writers of any age were the best physicians. We have no right to ridicule the man who frequently communicates his views to the profession. While it is true that too many write who have nothing worthy of publication, it is sadly true that many who fill high places withhold altogether their experience from their brethren. There are in this and other communities too many of this latter class. They are intellectually and morally worthy of the confidence of the profession, and capable of being the leaders in the department of practice to which they are especially devoted. By virtue of true merits they have obtained responsible positions in our hospitals, schools, and associations, and are qualified by long experience and sound

judgment to instruct. It is to them that the profession look for sound instruction in practical medicine, surgery and obstetrics, and for a just estimate of the value of the more recent improvements. But they are sealed books that give no information. They are quick to turn every advantage which official position may have given them to their personal and pecuniary account, but they make no return to those who have raised them to power. They will have their reward in that utter oblivion which is hereafter to cover their names.—*Amer. Med. Times.*

Two new medical dictionaries have been announced as in course of preparation in France. The first is to be called the "Encyclopædical Dictionary of Medical Sciences," and will consist of twenty volumes octavo, of about 800 pages each, and be issued in half volumes. The contributors comprise the names of the most prominent old and young celebrities. The second will be called "The New Dictionary of Practical Medicine and Surgery," consisting of twelve or fifteen volumes, of 800 pages each. The contributors are about thirty in number.

The Birth of a Prince.—The birth of an heir to the British Crown has given rise to the usual amount of congratulation in courtly phrases in the English papers. The extremely commonplace circumstances, however, attending the birth, have not failed to call out a certain degree of vulgar comment. The Prince of Wales and his wife were in the country, and she was engaged on the day of her confinement in skating. Her accouchement was not anticipated in two or three months, according to the regular order of things, dating from the period of marriage. She had felt some pain in the morning, but it was not ascribed to the true cause. Towards evening the symptoms became unmistakable, and then the scene began. There was no preparation for the coming event; the accoucheur was in London, and was immediately telegraphed; there were no attendants worthy of the occasion. Meantime, the progress of events showed that the denouement of the heir was more rapidly approaching than the accoucheur, and it became necessary to call in Dr. BROWN, a plain country practitioner, who

had the honor of officiating at the birth. The physician-accoucheur, Dr. FARRE, arrived from London just too late. The child was wrapped in cotton in the absence of all baby clothing, and from a neighboring infirmary plain Mrs. CONNOR was selected to wet-nurse the infant. The medical attendants issued a bulletin announcing the happy delivery by the Princess of a Prince. Thus ended a scene in high life, not at all unlike that which often occurs in the humblest cottage. The *Saturday Review*, in a very sarcastic vein, ridicules the court customs on such occasions, and takes the medical attendants to task for announcing the birth of a Prince, as though a Prince could be born, and states that it was their duty to declare simply whether the child was a boy or girl.—*Am. Med. Times.*

Bromine in Gangrene, Erysipelas and Diphtheria.—In a late number of the *Canada Lancet* will be found some interesting remarks by Dr. Stanford, on the employment and the success of bromine in hospital gangrene. Surgeon GOLDSMITH, the discoverer of its effects in this disease, gives in the *American Medical Times* of September last, a consolidated statement of upwards of 350 cases, occurring in the Military Hospitals of Louisville, New Albany, Nashville and Murfreesboro. By it, we find that the mortality after its adoption, has been less than three per cent. And he denies that these even would have been fatal, had not granulation been checked by a too frequent application. He shows also that the total results do not differ, whether this liquid be employed pure or in solution, although experience, he says, has taught the army surgeons that the speedier and better mode is to apply the pure undiluted bromine; and that unlike destructive caustics, it does not affect the healthy tissues. His table teaches us besides, that of those treated by means of nitric acid and other agents, but 50 per cent. have recovered.

He speaks also of four cases where the arteries had become involved, and haemorrhage set in, and the surgeons had tied the vessels at the bottom of the sloughing surfaces before applying the bromine over the whole, and yet the patients had all done well, and recovered without any subsequent bleeding.

Dr. POST, who has recently returned from a visit of inspection

to these hospitals, bears testimony to the truthfulness of this report. He thinks more favorably of the solution in such cases, and gives the following formula, as the one most usually employed :

Rx. Bromide of Potassium 160 grs; Water 4 oz; mix, and add Bromine 1 fluid oz. Shake the mixture well.

And recommends the use of a syringe, both for the washing of the gangrenous part, and the thorough injection of the solution, which destroys the odor at once, and gives the wound the appearance of being varnished.

Surgeons differ, he says, as to the frequency of the application, from once to two or three times in the twenty-four hours, until granulations become visible, after which the solution must be weakened.

Yeast is generally kept to the part when obtainable, but an excellent substitute, and one which is commonly employed in the army, is the ordinary poultice, made light and porous with carbonic acid, generated from carbonate of soda and tartaric acid, which should be mixed in the proportion of 30 grains of the former, to 25 of the latter, to render it neutral.

It seems hardly necessary to state, that in conjunction with this local treatment, the system requires to be sustained by means of stimulants, tonics, and good food.

Bromine has also proved extremely serviceable as a disinfectant of gangrene and erysipelas, in these hospitals; the vapor being allowed to pervade the apartment by occasional exposure of small quantities of the fluid upon saucers.

Dr. POST, in conclusion, alludes to the good effects of bromine in erysipelas. In the "Park Barracks," in Louisville, this disease broke out with great severity, and as soon as the bromine treatment was introduced, the disease ceased to spread. The remedy was used both in fumigation and as a local application. The surgeons were in the habit of moistening lint with the compound solution, applying it directly to the part, and covering the whole with oiled-silk. He saw a number of cases treated in this way where improvement had taken place in from twelve to twenty-four hours after the commencement of the treatment.

Dr. PERCY states that he has been in the habit of employing the saturated solution of bromine for diphtheria, and with very satis-

factory results. He has also used it with equally good effect in syphilitic ulceration of the throat, and in tonsilitis.

Dr. METCALFE, also has for some time been in the habit of applying a combination of bromine and iodine to throat affections with equal success.

Acute Rheumatism.

Dr. Nevin's treatment by means of Quinine, Iodide of Potassium, and alternate Steam Baths and Cold Douches.

The *British Medical Journal* of August last, contains an article by Dr. NEVINS of Liverpool, on the following treatment of Acute Rheumatism, which he informs us, has given him greater satisfaction than any other mode he has ever employed. He says it is the result of fifteen years' experience, and suggested itself to him, from the acknowledged periodicity of this disease as shown by the general aggravation of pain and other symptoms as night comes on, the copious sweating &c.; and the great value of iodide of potassium in chronic rheumatism.

The treatment consists in combining quinine with the iodide of potassium, and commencing its administration from the first, without regard to acute pain or febrile excitement. He never directs over two grains of quinine with five grains of the iodide, which he gives four times a day. He says that the thick creamy fur upon the tongue disappears more rapidly from this mixture than by any other means. He allows opiates or Dover's powder at night if necessary to relieve pain or secure rest.

In conjunction with this, he employs from the very first, steam baths, and this even when the patient is so helpless that it is impossible to move him from the bed on which he is lying. In the latter case they are produced by wrapping hot bricks in flannel previously soaked in vinegar, and laid upon plates and placed in the bed, one about a foot from the shoulder, and the other the same distance from the opposite leg, the patient's body linen being previously removed; the bedclothes should be well tucked in round the neck and elsewhere. A most refreshing acid steam bath is thus obtained, which may be kept up by replacing one of the bricks with another hot one. In about fifteen or twenty minutes the bedclothes and plates are removed, and the patient instantly mopped all over with a towel wrung out of cold water, and then quickly

rubbed dry. Great relief is at once experienced from the pain and exhausting acid sweats. After a thorough wiping, a warm dry blanket should be thrown around him while the bed is turned over and the bedclothes are being changed and warmed. He says that he has rarely found it necessary to give two of the steam baths in bed, the patient almost always being able to take the second, sitting up. A couple of gallons of boiling water is to be placed in a vessel beneath a chair, and the sick person, seated on a folded blanket, is wrapped about with another around his neck tent-like, allowing the lower border to descend to the floor. The steam is kept constantly generating by means of hot bricks put into the water. After fifteen or twenty minutes the blankets are removed, and a couple of quarts of cold water poured over the shoulders before drying quickly and thoroughly. These baths are to be continued even after the patient is able to walk about. Opiate embrocations containing chloroform or tincture of aconite may be employed to relieve the pains in the joints.—*Canada Lancet.*

Faradization for Extensive Burns.—Dr. RABOLD, of Paris, highly recommends this agent for the relief and cure of burns. His directions are as follows :

“The part of the body which has suffered from the effect of fire is immersed in a basin, or if necessary, a bath of water; the negative pole of the apparatus is put into communication with the water by means of the usual conductor, while a wire from the positive pole communicates with some point of the body out of the fluid and not far distant from the part affected. The electrical current is then carried through the latter, its force being regulated according to the patient’s strength. To ascertain whether sufficient electricity has been administered, the patient exposes the burn for an instant to the air, and if he does not feel the intense pain any more, the operation may be suspended—in the contrary case it must be resumed until that effect is produced. So long as the part affected remains immersed in water, under the influence of electricity, the patient feels no pain. In mild cases, an hour’s exposure to electricity is sufficient for complete relief; in more serious cases it must be continued for three or four hours, but the cure is stated to be both prompt and certain. When the whole person has been

injured by the flames, the patient must be put into a bath with the negative pole in the direction of the feet, and the positive one placed in contact with the nape of the neck. Part of the water must be changed every quarter of an hour, to prevent the bath from getting warm.—*Correspondence of Phila. Med. and Surg. Rep.*

The Bromides in Whooping Cough.—This new therapeutical agent, which was some little time ago found by Dr. GIBB to be an anaesthetic to the larynx, is now being turned to further practical account in the treatment of whooping-cough. Within the last nine or twelve months, Dr. HARLEY has been treating nearly all the cases of this disease brought under his care at University College Hospital by means of the bromide of ammonium, and the results of the treatment seem to be highly satisfactory. As a rule, the dose of the remedy is a grain for every year of the age. This rule is, however, not always adhered to. In cases where the children are well developed and strong, Dr. HARLEY occasionally gives as much as double that dose, namely, two grains for every year of the child's age. The bromide apparently acts by simply removing the whoop, which is by far the most troublesome symptom, and after that has disappeared the case is treated as one of simple bronchitic cough. The remedy was first administered by him with a view of inducing partial insensibility of the glottis and thereby counteracting the spasm, as it appears to be the chief source of the child's misery.

Bromide of potassium, which has a similar anaesthetic power over the pharynx and larynx, has also been used in whooping-cough by Dr. RADCLIFF. The dose is about the same as that of bromide of ammonium.—*Med. Times and Gazette.*

Arsenic in Pemphigus.—Mr. HUTCHINSON of the Metropolitan Free Hospital, gives a very interesting case in proof of the wonderful effect of arsenic in the cure of pemphigus. He says that it renders relapses less likely, and that an improvement may be noticed immediately on its employment, not a single fresh bulla showing itself after the first few days of the treatment.—*Medical Times.*

Clinical Lecture on Cases of Tumors under Moles.—By JAMES PAGET, F. R. S., Surgeon to St. Bartholomew's Hospital.

The occurrence of melanotic cancers under or in moles or pigmentary nævi has been long known. Among the cases of this disease, having their primary seat in or near the skin, more than half have thus grown in close relation with moles. There can, therefore, be no doubt that these congenitally defective or diseased parts offer some conditions peculiarly apt for the growth of melanotic cancers. What these conditions are we cannot tell, any more than we can what those are which are sometimes induced in a part by injury. Their reality and influence are, nevertheless, certain. And with the knowledge of these facts some useful points in practice may be connected. For example, if a patient have a tumor growing in or beneath a mole, it must be considered as most likely a melanotic cancer; or if we have an increasing outgrowth from a mole, epithelial cancer must be suspected. And if in any one, especially an elderly person, a mole begins to grow prominent, or to become more vascular or more irritable, it had better be forthwith cut out or destroyed with caustic. I have known cases in which, when moles are quickly increasing, and changing just like those that have afterwards become seats of melanotic cancers, their total destruction has been the end of all mischief. Of course, I cannot be sure that these would have become cancerous if they had been left; but I believe that, at least, some of them would, and that the rule for the destruction of all growing like them is a good one. If the formation of cancer be not quite averted by it, it may be deferred, as it seemed to be in a case I have lately seen. A patient had many pigmentary moles in his back. Five years ago one of them began to grow, and Sir Benjamin Brodie destroyed it with caustic. The scar remained sound until a few months ago, when an epithelial warty cancer began to spring up from it.

Hitherto, I believe that the only tumors for the growth of which moles have been known as offering peculiarly favorable conditions, are melanotic and, much more rarely, epithelial cancers.

But the tumor removed last Saturday is an instance of another kind, of which I have now met with three examples. The patient from whom this tumor was removed was sixty years old, healthy all his life, and very temperate, and in the site of the tumor there had been a mole as long as he could remember, and like one which he has on the back of the neck. This, however, never gave him

any trouble until about nine months ago, when, with some tingling, etc., it began to enlarge, and had gradually increased in size up to the time of his admission into the hospital.

A second case, which came under my notice a few years ago, was in a gentleman, who was unhealthy with repeated fever and other less serious maladies. He had noticed the tumor for at least four years, and it might have existed much longer, and have been overlooked, till, during these years, it had increased more quickly than before. In this, as in the last case, there had always been a mole at the place; but it was uncertain when the change and increase took place in it.

The third case was a woman, aged fifty-nine, who was admitted into St. Bartholomew's Hospital in 1850. She was rather a feeble looking, poor woman, high-colored, but not robust. She had always (she said) been feeble and ailing; but in the three years before her admission into the hospital her general health had been better than usual. Since childhood she had had several sebaceous or epidermal cysts of the scalp, but nothing of the present tumor over the sacrum had been noticed till between six and twelve months before admission.

The cutis over this tumor had, after, as well as before the removal, a distinctly brown hue, which gave it the appearance of a mole—a mere pigmentary mark, not raised above the surrounding skin.

In these three cases the tumors were so alike, that, with few additions, one description may suffice for all. Growing on the back of the trunk, they lie imbedded in the subcutaneous fat. They are roundly oval, moderately well-defined to the touch, closely connected with the structures round them, very firm, heavy, dull-elastic, feeling like fibrous tumors. The skin over them is raised and thinned by their growth; adherent, but not confused with their surface; and, in addition to the dark tint of the mole spread over part of the surface, the skin has a dusky, or ruddy and glossy, tint of diffused vascularity; and enlarged veins ramify over it, or away from it. The skin, or the tumor beneath it, has been in two cases the frequent seat of hot, burning pain; in the third there was no pain.

The secretion of the tumor has a lowly nodular or tuberous outline, easily separable by dissection from the surrounding skin and subcutaneous tissue. The cut surface appears divided by whitish

tissue into lobes and minuter lobules, much like those of the secreting conglomerate glands. It is very pale, grayish-white, with tinges of yellow or pale purple, smooth on its section, and glistening. It may have minute cavities filled with fluid, or one or more larger cysts, containing serous fluid or grumous matter. The substance is firm, but brittle, easily breaking into small fragments, yielding on pressure or scraping only some yellowish clear fluid, and no turbid fluid like cancer-juice even after it begins to decay.

The microscopic appearances are too various and indefinite for any useful minute description. There are appearances of glandular arrangement in minute acini, or in groups of cells of similar form. The cell structures, of which nearly the whole mass is composed, are some of them very like epithelial cancer-cells of various shapes ; some, like those cells withered, or rolled up, or very small, or abortive, and without nuclei ; some, more like elongated and very small cylinder-epithelium cells ; some like small, thin gland-cells. With these are granular matter, bodies like free nuclei, appearances of fragments of membrane ; but no more traces of fibrous or other such structures than may be referred to the partitions between the lobes, into which the whole substance of the tumor appears divided. In none of the cases has there appeared any pigment matter indicating relation to the melanotic growths more commonly found under moles.

There is sufficient in these structural characters to prove the occurrence of a form of tumor which, so far as I know, has not hitherto been described ; but there is not enough of what is definite to justify the giving of a new name. More specimens must be examined before this can be safely done. Meantime, it may be held that moles are, even more than has been supposed, apt to be the seats of the growth of tumors, and that among the tumors likely to be found in or beneath them are some which are neither epithelial nor melanoid cancers, and which, probably, are not cancers at all.

One of these cases, indeed—the second—has now remained well, without any recurrence, for more than four years after the removal of the tumor—a period much longer, almost certainly, than that which would have elapsed after the removal of a deep-seated epithelial or a melanotic cancer.—*Med. Times & Gaz., January 10, 1864.*

Two New Cases of Syphilis Conveyed by Vaccination.—Besides the case of M. Devergie, lately mentioned, we have now one alluded to by M. Chassaignac before the Surgical Society of Paris; and another observed by M. Herard, and brought before the Medical Society of Hospitals. The parents, in both cases, have not suffered from syphilis, and the specific ulcers became apparent in the children at the spot where vaccination had been performed. The symptoms of syphilis were verified by the members of both the above-mentioned Societies.—*London Lancet.*

Nyctalopia.—Prof. Hind, of Toronto, has published some curious details concerning the nyctalopia, or night-blindness, prevalent among the Montagnais or Nashquapee Indians. The sufferers from this affliction can see perfectly as long as the sun is up, but become nearly or wholly sightless from sunset until dawn. No artificial light is of the least service.—*London Lancet.*

The Medical Staff of England.—From the last census it appears that there are, in England and Wales, one surgeon or general practitioner to about 1,712 of the population, one physician to 5,552, and one dentist to 3,505.—*London Lancet.*

Sulphur in Asthma.—Dr. DUCLOS, of Tours, recommends washed sulphur in doses from $\frac{3}{4}$ to $1\frac{1}{2}$ grains three times a day for several months. And the *Boston Medical Journal* mentions three very bad cases of asthma, which it says were completely cured by this treatment. It is simple, and may be readily tried.

Sub-nitrate of Bismuth in Diarrhoea.—Dr. TRASK, of Finley Hospital, Washington, in a pamphlet gives his experience of the effects of bismuth in acute and chronic diarrhoea, after its successful employment in many hundreds of cases. He says that he has generally found a single dose of from 15 to 25 grains, either alone or in combination with an equal quantity of calomel, to be quite

sufficient, but when the attack is extremely violent he gives from 40 to 60 grains of the bismuth alone. Ordinarily it produces nausea in an hour or two after it has been taken, but when the case is severe it seems to arrest all gastric disturbance, remove the feeling of extreme prostration, and completely to check the discharges, thereby necessitating the employment of castor oil afterwards.

In chronic cases he gives the remedy in doses of a dram daily, or 40 grains twice a day. Quite a number of those treated had been suffering from six to eight months previously ; and the average period of treatment found necessary, was from five to six days, but the greater majority recovered in from two to four days.—*Canada Lancet.*

Treatment of Dysentery by large doses of Ipecacuanha.—The use of ipecacuanha in dysentery is by no means novel ; but the employment of such large doses, and in the method here described, is (Dr. Hillier said,) of comparatively recent date.

The plan is to give a drachm of tincture of opium, to apply a mustard plaster over the epigastrium, and, in twenty minutes, to give a drachm or a drachm and a half of powdered ipecacuanha in a very small quantity of peppermint water, or simple water. Sometimes half an ounce or an ounce of castor oil is given, with half a drachm of laudanum, before beginning the special treatment ; this is, however, usually found to be unnecessary. Vomiting is not often induced, and the cure is often immediate. A patient may be passing every half hour or oftener, blood and mucus, or bloody serum with pus. They cease at once for about twenty-four hours ; he then has a natural stool, and is well. The diet is farinaceous.

In May, 1862, Mr. Baylis, of Ceylon, wrote to Dr. Hillier that he had treated fifty or sixty cases in this way, and only lost three, who were in articulo mortis when they came under his care. He writes that he has continued the plan of treatment up to the present time, and expresses himself equally satisfied with it. He gives the following as an illustration of the results of this treatment :

“A highly phthisical young gentleman, in whose lungs softening had commenced, came out here for his health. I told him the climate would not suit him. However, he disregarded my advice,

and I was soon called to see him. I found him in bed, unable to speak above a whisper; pulse very weak, about 100; face flushed; tongue thickly coated with yellow fur; tenderness and pain in abdomen, especially in the left iliac region. He had been suffering from diarrhea for four days. During that day and previous night he had passed upwards of sixty motions; they were at first copiously feculent, latterly, almost pure blood, with a little slime. He had been feeding most imprudently. I gave him at once a drachm of laudanum, and put a mustard plaster on his epigastrium. In twenty minutes I gave him a drachm of ipecacuanha powder in a wineglass of water. He did not vomit. Those who saw him at the time thought he could not live twenty-four hours. Next morning he was much the same; had fainted once or twice on going to stool, but had only passed seven motions, composed of blood and stuff like the washing of meat. He had now much pain in the stomach and bowels. I ordered an opiate injection three times a day, and at 6 P. M. put on a blister and repeated the laudanum, followed by the ipecacuanha, as on the previous day. Next day he passed only two motions; there was just a trace of blood, but they were largely feculent. The morning after, the motions were solid and natural, and he rapidly recovered without more medicine. His diet was sago and arrowroot."

Dr. Hillier has made the opportunity of trying this mode of treatment at the Children's Hospital. It was in the case of a child aged four years, suffering from subacute dysentery contracted in Barbadoes. He gave five minims of laudanum, and in half an hour fifteen grains of powdered ipecacuanha. There was no nausea or any unpleasant symptom caused by the medicine; and although the patient had previously passed five or six motions, containing much blood and mucus, every twenty-four hours, there was no evacuation for thirty-six hours. He then passed an ordinary feculent motion, and from that time he continued quite well. It is stated that ipecacuanha has the effect of rapidly healing large dysenteric ulcers. Dr. Hillier suggested that it might be worth while to try it in the diarrhea dependent on tubular ulceration, or in typhoid fever. The opium is supposed to act mainly in preventing vomiting, but it may, with ipecacuanha, have a more specific action on the disease.—*Medical Times and Gazette.*

Iberis Amara, a New Purgative.—We observed Dr. Wilks use a purgative which was new to us, the *Iberis amaria*, or candy tuft-seed. He had been recommended to its use by Mr. Stillwell, of Epsom, who said that it had been a favorite purgative medicine with him during the whole of a long practice, given either alone or combined with jalap powder. The seeds, when bruised, are oily and acrid, and when made into a pill of four or five grains, act as a good purge. Dr. Wilks said he had found it answer its intended purpose; but as there was no want of aperient medicines in the Pharmacopœia, he saw no reason to adopt it in preference to those in ordinary use. A strong Irishman took three grains with no effect, but ten grains purged him two or three times. A man who was habitually constipated, and who had been taking magnesia mixture daily with only slight effect, was ordered three grains three times a day; he took five pills, and was purged violently several times. A lad with cardiac dropsy took five grains, and in a few hours it acted twice. In some cases it produced sickness. In the case of a man with renal dropsy ten grains were given. In two hours he was sick, and in seven hours he was well purged. It was repeated, but without the sickness. In all about twenty cases were treated, and its purgative action well tested.—*Ibid.*

Syrupus Rhumani in Constipation.—At one time buckthorn was much used as a cathartic, but it has lately been chiefly used as a purgative for dogs by veterinary surgeons. Dr. Neligan says that the operation of the juice of the berries is very severe, and that it is “frequently accompanied by severe tormina, thirst, and distressing nausea.” But Dr. Hanfield Jones says that he has used it recently, and finds it an excellent purgative, and he states that it has none of the faults above mentioned in any marked degree. He gives, to adults, one or two drachms of the syrup, and a drachm of the potassio-tartrate of soda. This is, he thinks, quite as good a combination as black draught, and is not nasty; this is a great gain, as black draught is to most people a horrible mess. The syrup is the only officinal preparation, and the dose is stated by Neligan to be $\frac{3}{ss}$ to $\frac{3}{j}$. The dose prescribed by Dr. Jones is much smaller, but he finds it quite effectual in obstinate constipation, especially in habitual constipation.—*Med. Times & Gazette.*

The Terchloride of Carbon.—Mr. Bryant informs us that at Guy's Hospital the terchloride of carbon has been employed for many years, and that it was a very favorite remedy of the late Mr. Ashton Key, tracing its employment back, therefore, at least fifteen years. As a lotion it has acquired considerable value, and may be looked upon as a stimulant, and in a measure as a disinfectant. In sloughing and fetid ulcers it is of great use. It may be used in the indolent and weak ulcer with general advantage. The usual strength of the lotion is from mxx to $3ss$ of the drug to an ounce of water. It has an agreeable odor and rapid effect. In cases of gangrene, and in sloughing phagedena, it may be employed in its concentrated form with some confidence, a wound thus affected rapidly taking on a more healthy aspect. Upon the whole, it is a very valuable local stimulant, and in Mr. Bryant's estimation ranks above most of the drugs of that class now in use.—*Med. Times & Gazette.*

Use and abuse of Stimulants in Fever—Occasional Antiphlogistic Treatment.—A few days ago we saw at Guy's several patients convalescent with fever. In reference to them Dr. Wilks remarked on the treatment of fever by stimulants. A young man, who had had typhus fever, and who had been covered with the ordinary mulberry rash, had recovered without any. As there appeared no need to give any, Dr. Wilks wished to prove to his class that alcohol was not always necessary in fever, and that he did not by any means consider alcohol as an antidote to fever, for he found the disease always ran its course under every form of treatment. He considered the rule laid down by many of the older physicians to be the correct one with regard to the treatment of all fevers; that in very many cases supervision was alone required, and that in others a stimulant plan was necessary; the only question being the quantity of alcohol required and the time when it was needed. He thought, therefore, that those who spoke of their success by the universal treatment by alcohol in all cases of fever, were adopting (to say the least) a very unscientific method, which was, in reality, one founded on such a reasoning as this: That severe cases of fever are benefitted by alcohol, and mild ones are not killed by

it, and, therefore, it is safer to give it to all. The same may be said of those who declare carbonate of ammonia to be *the remedy* for all cases of scarlatina. It is, no doubt, of great value in severe cases, and in mild ones it certainly will not kill the patient. Dr. Wilks would not say, however, that wine and spirits did no harm, for in some cases he believed they were decidedly injurious, especially in young persons with typhus fever and violent delirium. He had such a case under his care, in which he ordered cupping to the back of the neck, and which was followed by quiet and sleep. He was a total disbeliever in the change of type theory; for such a case as this, and two others which he had seen bled, and yet did well, entirely refuted such an opinion. Although he believed the present plan of treatment by support saved more lives, he was quite sure, that if no stimulants were given, and that if the patients were bled, that the greater number would recover as heretofore.—*Med. Times and Gazette*, Jan. 23, 1864.

The Peruvian Cocoa (Ærythoxycon coca).—The French authorities at Peru have had their attention directed to this substance with a view of naturalizing it in the French colonies, as a plant likely to prove of great utility in the military and naval service. The leaves, when chewed in moderate quantity every three hours, are said to have the power of enabling a man to do without food during three days, while it develops his muscular powers and animal spirits, and protects him against the insalubrity of climate. Its stimulant principle is three times stronger than that of coffee, and four times than that of tea. Miners and travelers are said by its aid to be enabled to take journeys of four days' duration without any other support, and it is obvious that, supposing this property to really exist, the plant may prove invaluable in forced military marches. It is to be expected, however, that these remarkable results will not be exhibited to the same extent in the persons of Europeans. Still, Dr. Montegazzi, of Milan, affirms that, although of a feeble habit of body, he was enabled to go forty-eight hours without any other aliment, and suffered no inconvenience.—*Med. Times and Gazette*, January 30, 1864.

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POISONING BY STRYCHNINE.

Court of Common Pleas of Union County, Ohio, September Term, 1863. State of Ohio vs. Mary Freet and Lothrop Converse. Before Wm. Lawrence, Judge. Reported by Hon. Wm. LAWRENCE, Judge of the Court of Common Pleas of the 3d Judicial District of Ohio; and T. G. WORMLEY, M.D., Professor of Chemistry and Toxicology in Starling Medical College, Columbus, O.

(Concluded from page 138.)

John B. Coats made the opening argument for the State, and was followed by P. B. Cole, O. Bowen, and C. Delano, in behalf of the defendant; J. D. VanDemen closed the case on behalf of the State.*

* In the course of the argument for the defence, it was claimed by C. Delano that the chemical evidence of the presence of strychnine did not furnish the full proof required by law. For this purpose the evidence of Dr. Jackson, of Boston, in the Richardson and Healey case, tried in the Supreme Court of New Hampshire in 1861, as reported in the Boston Medical and Surgical Journal, for April 25, 1861, p. 271, was quoted, in which he states: "At the best the tests (for strychnine) are merely cumulative evidence." "The tests already known may be relied upon as inducing a strong belief; they do not amount to a demonstration."

From the statements quoted, we should infer that Dr. Jackson, at the

The Court, WILLIAM LAWRENCE, Judge, charged the Jury substantially as follows :

*Gentlemen of the Jury :—*The defendant is on trial, charged with murder in the first degree, by administering strychnine to William Freet, with intent to kill, and resulting in his death.

To the indictment the defendant has pleaded NOT GUILTY ; and the issue thus made you have been impaneled and sworn to try, and you are now upon your oaths to decide. Of the importance of the case—the duty of bestowing upon it a full and careful consideration, so that neither the innocent shall unjustly suffer, nor the guilty go unpunished—you have been admonished already by counsel ; and indeed without that, I doubt not you would properly appreciate the solemn duty entrusted to you of deciding between the State and the accused. You have heard all the testimony with becoming patience and care ; you have given due attention to the able arguments of counsel, who have with equal candor and fidelity represented the State and the accused ; and it now remains for you to receive the charge of the Court, and then pronounce your verdict.

time he gave his evidence, was wholly ignorant of the state of chemical science in regard to the recognition of strychnine by means of tests. It is universally admitted by those acquainted with the subject, that there is no substance, especially when in its pure crystallized state, that can be recognized, by direct chemical tests, with more unerring and absolute certainty than this poison ; in fact, there is no poison, when separated from foreign matter, that can be recognized with absolute certainty in *smaller quantity* than this substance. It may be true that there are some poisons that may be separated from complex mixtures in smaller quantity than strychnine, but this was not the point in question. Even in this respect, with the exception of certain mineral substances, and perhaps free hydrocyanic acid, our methods, at present, are not inferior to those for the separation of other poisons ; in fact, we can separate from complex organic mixtures and recognize with certainty a smaller quantity of this poison than of any other alkaloid.

The true character of the evidence of Dr. Jackson will, perhaps, be apparent when it is stated that, according to the same report, Dr. A. A. Hayes, who made the chemical examination, obtained from one-fourth part of the stomach and its contents 62-100ths of a grain of crystallized strychnine, the true nature of which was established by its answering in every particular to that poison when examined by the color test, and

In discharging the duty which the law has entrusted to you, I will direct your attention :

First. To the Rules of Law which you will observe in relation to the Evidence.

Second. To the Facts which must be proved in order to establish the guilt of the defendant as he stands charged in the Indictment.

I adopt this order because I conceive it a convenient form of considering the issue submitted to the Jury, and as conducing in some degree to arrive at a correct result.

In considering every fact to be proved, and in passing upon the whole issue, the rules of law which determine the measure of the evidence necessary to convict, should be duly considered to enable the Jury to arrive at a correct conclusion.

FIRST AS TO THE RULES OF LAW.

I. It is the province and the duty of the Jury to determine what is, and what is not, proven in the case—to pass upon all questions of fact. This is the exclusive province of the Jury, and one with which the Court will not and cannot properly interfere.

twelve other chemical tests, taste, crystalline form, and its action upon two frogs, both of which died with the well-marked character of strychnine poisoning.

It is a singular fact, that in several recent trials for murder by poisoning men have been found who, having some knowledge of chemistry, either from ignorance or some other cause, wholly misrepresented the true state, of that science. These *experts* not only hazard, and sometimes even defeat, the ends of justice in the special case in which they are engaged, but their evidence is afterwards, in some cases at least, quoted by lawyers for the purpose of acquitting some notorious criminal. In this manner these false statements may continue to work evil for years after they were first promulgated. These facts show the great responsibility under which the chemist or physician is placed upon the witness stand, and indicate how guarded he should be to neither compromise the interests of society nor those of the individual. The former has occurred more frequently than the latter, yet it is a fact that in at least two trials for poisoning in this country alone, chemical witnesses have sworn to the detection of poison in the stomach, when by the methods pursued for its separation, as detailed in their evidence, it was absolutely impossible for the poison to be present in the substance examined by their tests.

W.

Sometimes a Jury imagine that the Judge entertains a particular opinion either for or against the defendant; but it is the duty of the Jury not to know or even to consider whether any or what opinion is, or is not, entertained by the Court as to the guilt or innocence of the accused or as to any question of fact in the case.

The finding of the Jury upon all questions of fact, and upon the issue submitted to them of guilty or not guilty, is to be their finding exclusively upon the evidence, uninfluenced by the opinions of others, except as the opinions of experts upon questions of science and skill may have been received in evidence.

II. It is the duty of the Jury to receive the law as it is given to them by the Court.

It is the exclusive province of the Court to determine what the law is, and the Jury have no right to hold the law to be otherwise in any particular than is given them by the Court. *Robbins v. State*, 8 Ohio S. Rep., 131; *State v. Croteau*, 23 Vermont Rep., 14; 2 Bennett & Heard, *Leading Crim. Cases*, 338 and notes.

III. The presumption of the law is that the defendant is innocent, and this presumption continues until her guilt is established by evidence. She is not required to establish her innocence, but has a right to rely on the legal presumption in her favor; unless it is overthrown by sufficient evidence the defendant must be acquitted.

IV. In order to convict the defendant the evidence must satisfy the Jury beyond a REASONABLE DOUBT that she is guilty as she stands charged; and as her guilt is only established by sufficient proof of several material particulars, the proof either as matter of fact, or as presumption of law from facts proved, must satisfy the Jury beyond a reasonable doubt of the existence of each fact necessary to constitute her guilt, or she must be acquitted. *U. S. v. Foulke*, 6 McLean, C. C. R., 349; *Com. v. York*, 9 Metcalf, 93; 2 Bennett & Heard, *Lead. Crim. C.*, 504; *Com. v. Bradford*, 9 Metc., 268; *Com. v. McKie*, 1 Gray, Mass., 61; 1 Bennett & Heard, L. Cr. C., 504; *State v. Newman*, 7 Alab., 69, *Wharton Cr. Law*, sec. 707, 744; *Hites v. State*, 4 Black'd, 552; *State v.*

Thompson, Wright R., 617; *Sumner v. State*, 5 Black'd, 579, 1 Jones, Pa. R. 369; *Com. v. Webster*, 5 Cush., 320, 1 Phil. Ev. 156, 1 Starkie Ev. 478, 3 Greenl. Ev. 29; *Com. v. Harman*, 4 Barr. 270; *Pate v. People*, 3 Gilman, 644; *Giles v. State*, 6 Geo., 285; *Winter v. State*, 20 Alab., 39.

The extent to which this principle is carried may be illustrated by a practical application to the essential facts on which murder in the first degree may be predicated.

That the burthen of proof is on the State in the first instance to prove beyond a reasonable doubt all the essential facts necessary to constitute a *prima facie* case of murder is admitted in all the books.

But some of the elements which constitute murder are presumptions or inferences of law from other facts proved.

Thus, in homicide by poisoning, the essential facts as such are:

- I. THE DEATH;
- II. BY MEANS OF POISON;
- III. ADMINISTERED BY DEFENDANT;
- IV. IN THE COUNTY;
- V. KNOWING IT TO BE A DEADLY POISON.

When these are proved beyond a reasonable doubt, without any evidence to rebut any of them or the legal presumptions arising therefrom, either growing out of the evidence for the State or by independent matter, a *prima facie* case for the State exists, upon which a Jury should convict. See *Swallow v. State*, 22 Alab., 20, 1 B. & H. Lead. Cr. C., 333.

There are other ingredients of the crime of murder in the first degree, but it is not necessary to prove them in the first instance, or in the absence of anything to rebut them growing out of the evidence on either side, for they are presumed from the existence of the five several facts last stated.

They are—

- I. THE PURPOSE TO KILL, 8 Ohio St. R., 131;

II. (*) PREMEDITATION AS APPLIED TO SUCH PURPOSE, 8 Ohio S. Rep., 181;

III. THE UNLAWFUL ADMINISTRATION OF THE POISON;

IV. IN A DOSE POISONOUS AND DEADLY IN THE PARTICULAR CASE.

If any of these are wanting there can be no conviction of murder in the first degree.

If upon the whole evidence the rebutting proof of any one of these last named four particulars is such as to raise a reasonable doubt whether it can be affirmed to exist, then there could be no conviction of murder in the first degree.

But where a presumption of law arises from facts proved, and when there is no evidence to disprove it, it is as legally proved as though demonstrated by positive evidence, and the Jury are not at liberty to disregard it. Presumptions never obtain against positive facts, though they often supply the want of facts: *Wallace v. Miner*, 6 Ohio Rep., 370.

As a question of law no legal doubt can arise as to a presumption of law uncontradicted by any evidence; for, "facts presumed are as effectually established as facts proved, so long as the presumption remains unrebutted": *Coombs v. Lane*, 4 Ohio S. Rep., 112; *Kelly v. Jackson*, 6 Pet. R. 622, 631, note 285 to p. 437, Phil. Ev. Cowan & Hill, notes 469, 2 Ev. Poth. 329, No. 16, sec. 14—*de non apparentibus et non existentibus eadem est ratio*.

The same principle as to reasonable doubts may be illustrated in reference to matters of defence. Thus the accused not be found guilty of *any* grade of crime if the proof should show—

I. AN ALIBI.

II. SUICIDE OF DECEASED WITHOUT GUILTY AID OF DEFENDANT.

III. THAT THE ADMINISTRATION WAS THE RESULT OF ACCIDENT

* In a note at the conclusion of this case I have given my reasons for believing that *premeditation* is not an ingredient of the crime of murder in the first degree perpetrated by means of poison. Out of deference to a remark of Judge Bartley, in 8 Ohio St. R., 181, it is mentioned in the text as essential.

OR MISTAKE, UNACCOMPANIED BY AN UNLAWFUL ACT, as for instance, in the belief that it was a proper medecine.

IV. IGNORANCE OF ITS DEADLY OR DANGEROUS CHARACTER generally or in the particular case, when given in good faith for a lawful purpose, with knowledge and consent of the patient, or without fraud on him, as for a medicine. *Com. vs. Thompson*, 6 Mass. R. 134.

V. And so there may be other defenses, as INSANITY, &c. So it is held that the crime may be reduced to murder in the second degree by proof of—

I. *The absence of premeditation in the intent to kill*, if such be possible.

And it may be reduced to *manslaughter* if the proof show ONLY—

II. *An UNLAWFUL administration of the poison with NO PURPOSE TO KILL*, as by giving it—

1. With intent to cause pain or sickness unlawfully, but in ignorance of its fatal character, generally or in the particular case, or,
2. With intent to procure an abortion or like evil purpose, or,
3. As a medicine, but unlawfully, as by deceiving the patient, or without his consent or knowledge, whether with or without malice.

Now, in some of the States of the Union, the evidence to rebut the intent to kill, the malice, the deliberation and premeditation, to prove a lawful purpose in the administration of the poison; that it was administered in a medicinal dose; the suicide, the accident, the alibi, or other like circumstances, and all the evidence to reduce a *prima facie* case of murder in the first degree, to a lower grade of homicide—in short the proof of matter, of excuse or extenuation, not only lies on the defendant, unless it appears from the circumstances or evidence introduced by the State, but to make such matter of excuse or extenuation available, the jury are to draw the proper inferences of fact from the *whole evidence*, and decide the fact on which the excuse or extenuation depends, *according to the preponderance of evidence*. *Com. Webster*, 5 *Cush.* 296.—*Com. York*, 9 *Met.* 93.

That is, when the essential facts for the State are proved beyond a reasonable doubt, the matter of excuse or extenuation is only available when upon the whole evidence, the extenuation or excuse is established by preponderating proof in its favor; or at most when the whole evidence is in *equilibrio*; that when a *prima facie* case is made, and as to all legal presumptions in favor of the State, the *onus probandi* is shifted from the State to the accused.

But the humane policy of our law is such that it seems to me the rule in Ohio is that where matter of excuse or extenuation, whether it arise out of the transaction itself, or be a distinct, independent fact in defence, is offered in evidence; and the whole evidence, as matter of fact, leads to a reasonable doubt of the existence of any fact essential to the prosecution, or leads to a reasonable doubt whether any one of the legal presumptions in favor of the State, be in fact well founded, that doubt will avail in favor of the defendant, and should acquit. See note to *Com. v. York*, 2 Bennett & Heard, Leading Crim. Cases, 504; S. C. 9, Metc., 93; *Com. v. Bradford*, 9 Metc., 268; *Com. v. McKie*, 1 B. & H. Lead. Cr. Cas., 352; 1 Gray Mass. 61; *People v. McCann*, 16 N. Y. Rep. (Court of Appeals 58); *Swallow v. State*, 22 Alab. 20; 7 Blackford, 427.

And this is so whether the defendant relies on distinct, separate and independent facts as substantive matter of defense, or confines his defense to the original transaction on which the charge is founded, with its accompanying circumstances. Wharton, Cr. Law, 710, 944; *Mitchell v. State*, 5 Yerger, 340; *Coffee v. State*, 3 Yerger, 283; *Davis v. State*, 10 Georgia, 101; *State v. Turner*, Wright R. 20; *Com. v. Hill*, 2 Gratt., 594; *Com. v. Eddy*, 9 Bost. Law Reports, N. S., 611; *Com. v. Kimball*, 24 Pick. 366; *Com. v. Danna*, 2 Met., 340.

Contra. *Com. v. How*, 1 Mass. 54. But see *Com. v. Rogers*, 7 Metc., 500; *Com. v. Webster*, 5 Cush., 320; *State v. McAlister*, 11 Shepley, 139; *State v. Upham*, 38 Maine, 261; *Com. v. Knapp*, 10 Pick., 477.

I am aware that a distinction has been made between cases where the circumstances on which the reasonable doubt arises, grow out

of the original transaction on which the charge is founded, and cases where the doubt grows out of independent facts; but the defendant may as justly claim the doubt in one case as in the other. 24 Pick., 373; 2 Metc., 340; *U. S. v. McClare*, 7 Bost. Law Reports, N. S. 439, Dec. 1854; 3 Brevard, 514; 12 Illinois, 259.*

Where *insanity* is the defense, however, the law requires it to be established by a *preponderance* of proof. The defence may be so readily feigned that the safety of the public seems to require this rule. Wharton Am. Cr. Law, Sec. 709; *Loefner v. State*, 10 Ohio St. R., 612; *State v. Spencer*, 1 Zab. 196; *Com. v. Rogers*, 7 Metc. 500; *Com. v. Eddy*, 9 Bost. Law Rep. N. S., 611; *People v. McCann*, 16 N. Y. R. Court of Appeals, 58; *Clark v. State*, 12 Ohio R., 494; *Farrer v. State*, 2 Ohio St. R., 69, 77.

Contra. *State v. Marler*, 2 Alab., 43, reasonable doubt sufficient; 1 Bennett & Heard, Lead. Cr. C., 354, note cases collected; *State v. Bartlett*, 43 N. H., 224; 25 Boston Law Reporter, 704, for Oct. 1863, must be clearly proved. *R. v. Stokes*, 3 C. & K., 188; *R. v. Taylor*, 4 Cox C. C., 155; *State v. Bringer*, 5 Alab., 244; *State v. Start*, 1 Strohhart, 679; *State v. Spencer*, 1 Zabriskie, 202; *Lake v. People*, 1 Harris C. C., 495. And see as to Cruther on State, *Com. v. Eddy*, 9 Bost. Law Rep. N. S., 611; *Com. v. Kimball*, 24 Pick., 366; *Com. v. Dana*, 2 Met. 329, 340.

Contra. *Com. v. How*, 1 Mass. 54.

Having stated the extent to which reasonable doubts may be

* By some of the authorities it is even held in civil cases, that a *prima facie* case for the plaintiff does not shift the *onus probandi* on to the defendant so as to require matter of defense to be proved by a preponderance, but the plaintiff on the *whole* evidence must have a preponderance. 1 Bennett & Heard, Lead. Cr. Cases, 351n; 1 Curteis, 640; *Delano v. Bartlett*, 6 Cush., 364; *Powers v. Russell*, 13 Pick., 69; 12 Pick., 177; *Lexington Ins. Co. v. Paver*, 16 Ohio R., 324; *Tourtelott v. Rosebrook*, 11 Met., 460; 7 Cush., 213; 4 Cush., 598; 23 Pick., 146.

Contra. Story on Promissory Notes, Sec. 181; 2 Greenl. Ev., Sec. 172; Story on Bills, Sec. 178; *Sawyer v. Vaughn*, 25 Maine, 337; *Greer v. George*, 3 English, 131.

applied, I now direct your attention to other considerations connected with them.

As this subject of reasonable doubts, is not always accurately understood, and when understood, may for that reason result either in the unjust conviction of the innocent, or of the acquittal of those who are really guilty, and thus turn out upon society, for whose protection laws are enacted and courts instituted, the abandoned and the lawless to perpetrate new outrages, I deem it a duty to explain more fully what reasonable doubts are, as defined by law, and what they require.

1st. If, when the Jury have considered all the evidence in the case, *the guilt of the defendant is not fully proved*, then that reasonable doubt exists, which should acquit, for the legal presumption of innocence would in such case demand an acquittal.

In civil cases it is said the Jury *weigh the evidence*, and when it is sufficient, decide according to the preponderance, though a reasonable doubt may exist of the correctness of the decision; but in criminal cases as this is, neither a preponderance, nor any weight of prepondant evidence, is sufficient, unless it produce in the mind full belief beyond a reasonable doubt. A reasonable doubt exists where only a probability, and a strong probability, of guilt is established, arising from the doctrine of chances, that the fact charged is more likely to be true than the contrary.

A reasonable doubt is one which exists in the mind of a reasonable man, after giving due weight to all the evidence, and such as leaves the mind in a condition in which it is not honestly satisfied, and not convinced to a moral certainty, of the guilt of the accused. A reasonable doubt is an honest uncertainty existing in the mind of an honest, impartial, reasonable man, after a full and careful consideration of all the evidence, with a desire to ascertain truth regardless of consequences.

2d. But a reasonable doubt is to be distinguished from a mere captious doubt, a mere arbitrary and speculative doubt. If a Jury should be fully and clearly convinced of the guilt of the defendant in a case where the evidence established it, and because of an

aversion to capital punishment, should for that reason create a doubt in the mind that would not otherwise exist, that would not be a reasonable doubt. It would be moral perjury, as much to be censured in principal and practice as to be dreaded in its consequences. The Jury have nothing to do with consequences of their verdict, aside from the duty imposed to ascertain truth according to law. A mere speculative doubt, excited in the mind against evidence from any cause, to furnish a pretext for acquittal, is not a reasonable doubt. A mere possible doubt, or an idea that there is a remote possibility that the accused may not be guilty, is not a reasonable doubt. The defendant is entitled to the benefit of every reasonable doubt, but this does not mean that the Jury shall acquit in any case, if the accused is fully, clearly, and legally proved guilty; for that would not only be unreasonable, but unlawful. The law does not require that the proof shall satisfy the mind of the Jury beyond all possible doubt, but only beyond a reasonable doubt. And while it is true that the law deems it better that many guilty persons should go unpunished for want of adequate proof of guilt, rather than that an innocent person should be convicted upon insufficient evidence, yet absolute unequivocal positive certainty is not required in any case. In order to find the defendant guilty, it is not necessary that the mind of the Jury should be convinced so as to feel satisfied that their verdict is absolutely, unequivocally, positively, certainly correct. Possible and contingent doubt hangs over all human affairs. Absolute unequivocal certainty is rarely attainable, and this is a degree of perfection not required by the law, of the Jury, even though the absence of such certainty may by possibility, very rarely, convict an innocent person. (*U. S. v. Jones*, 2 Wheeler Cr., C, 451, note 305, to p. 460; *Phillips*, Ev., C., & Hill's Notes, 563; *U. S. v. Gilbert*, 2 Sumner, U. S. R. 27, *Moore v. State*, 2 Ohio S. R., 50; Wharton Am., Criminal Law, sec. 734, 27, Alab., 20; *Com. v. Harman*, 4, Barr, 269, 13 S. & Marsh. 471.) The doubt which acquits must be real, not imaginary, and without foundation. I admonish you then to give to the defendant the benefit of every reasonable doubt as I have

thus defined it, for that is her right. If any Juror should entertain this reasonable doubt, it is his duty to withhold his assent to the rendition of a verdict of guilty. The evidence in order to convict the defendant must be such as not only to prove her guilt, but such as to a moral certainty, beyond a reasonable doubt, to exclude or disprove every hypothesis but that of such guilt.

Thus it must be fully and satisfactorily proved that the death of William Freet was neither occasioned by natural causes, by accident, nor by his own act. (1 Stark Ev., 511, section 77, self case, East, P. C., 226, cited, 2, Stark, Ev., 946. That is, upon the whole evidence, the death must be traced to defendants' wrongful act to a moral certainty. If deceased committed suicide by taking poison, and the poison of which he died was not administered by the defendant, she should be acquitted. The evidence must be such as to prove that his death was not his own sole act, unaided by the defendant.

It is said by Wharton that "Suicide and accident are sometimes artfully suggested and plausibly urged, as causes of death, where the allegation can not receive direct contradiction; and in such cases the truth can be ascertained only by a comparison of all the attendant circumstances, some of which, if the defence be false, are commonly found to be irreconcilable with the cause assigned. It may also happen that the supposed *corpus delicti* is the result of accident or carelessness." American Cr., Law, sec. 750; Wills on Circumstantial Evidence, 239; Wharton & Stille Med. Jurisp. sec. 883, 946.

Whether this be so or not, either generally or in this case, I leave to the Jury, if it be material, to determine. There is no presumption, however, from the mere fact of death, in the absence of all evidence or circumstances, that a deceased person has committed suicide.

VI. Evidence may be either positive or circumstantial. If a witness sees, knows, and testifies to the commission of an act, or hears and testifies to an admission of guilt by a party who is accused, that is denominated positive evidence. The credibility

and the weight of this evidence belong exclusively to the determination of the Jury. But it is not possible always, and especially in criminal cases, to establish guilt by positive testimony, nor is it necessary. Men do not generally commit great and infamous crimes in the presence of witnesses.

The safety of life and property requires that circumstantial evidence alone shall, when sufficient, justify a conviction, even in capital cases; positive proof is not required. See Note 287 and 304, to page 460, Phil. Ev., Cowan & Hill's Notes, 562; 2 Wheeler, Cr., C. 451, 461; *U. S. v. Johns*, 1 Wash. C. C. R., 372; 1 Wheeler, Cr. C., 131, 462; 1 Chit. Cr. L., 563; 4 Blacks't. Com. 358; *Crane v. Astor*, 6 Pet. 598, Notes 282, 290, to page 436, of Phil. Ev.; Cowan & Hill's Notes, 451; 2 Hale P. C., 289; Rees on Cr., 1154n; Wharton, Cr. Law, sec. 732, *et. sequor*; *U. S. v. Gilbert*; 2, Sumner, U. S. R., 27; *Mickle v. State*, 27, Alab., 20; *Moore v. State*, 2, Ohio St. R., 500; *People v. Thome*, 6, Law Reporter, 54; *Com. v. Harman*, 4, Barr, 269; *McCane v. State*, 13, Sum. & Marsh., 571; 3, Greenleaf, Ev., sec. 137; Will's Circ. Ev., 188; *Mitcham v. State*, 11 Georg. 615; East P. C. Ch. 5, sec 11; 3 Stark Ev., 497; 3 Cowan & Hill's Notes to Phil. Ev. 475, 564, 470, 555.

The credibility of witnesses who detail circumstances in evidence, and the weight of the circumstances detailed are to be determined solely by the Jury, subject of course to the instructions of the Court as to the existence of conclusive, or other presumptions, when such exist. And it is a rule of law, which the Jury will not overlook, that "the facts alleged as the basis of any legal inference, must be strictly and indubitably connected with the fact or facts to be proved."

To convict upon the evidences of circumstances, it is necessary, not only that the circumstances all concur to show that the accused committed the crime, but that they all be inconsistent with any other rational conclusion. Wharton, Cr. Law, 733n in *Hodge's*

case; 2 Law, Cr. C. 227; 1 Stark, Ev. 507, 512; *Alghen v. State*, 25; Mississippi, 584.

VII. A question may arise as to the effect of proving that witnesses have made statements different from those to which they have testified. How far this may effect the credibility of witnesses, or the accuracy of their statement, is a question for the Jury to determine. When the statement is deliberately made and precisely identified, it may furnish satisfactory evidence against the credibility or accuracy of the witness. And if a witness corruptly testifies falsely in one particular, it is to be considered by the Jury as affecting his entire evidence.

But it has been observed by Greenleaf with regard to verbal admissions, that they ought to be received with great caution, and as matter of suggestion for the consideration of the Jury, it may be well to consider how far his observation is applicable here. He proceeds to say :

"The evidence, consisting as it does, in the mere repetition of oral statements, is subject to much imperfection and mistake. The party himself may not have clearly expressed his own meaning, or the witness may have misunderstood him. It frequently happens also that the witness, by unintentionally altering a few of the expressions really used, gives an effect to the statement completely at variance with what the party actually did say." 1 General Ev., sec. 200.

VIII. The evidence of good character is proper for the consideration of the Jury; its weight and effect the Jury will determine, as relevant to the question of guilty or not guilty.

"The object of laying it before the Jury is to induce them to believe from the improbability that a person of good character should have conducted himself as alleged, that there is some mistake or misrepresentation in the evidence on the part of the prosecution, and it is strictly evidence in the case." 3 General Ev., 25.

Aided by this, the Jury are, as Greenleaf says, in a proper case "to decide upon the whole evidence, whether an individual whose character was previously unblemished, is or is not guilty of the crime of which he is

accused." *Com. v. Webster*, 5 *Cush.* 535; 2 *Russ. on Cr.*, 785; *Wharton, Crim. L.* sec. 643.

If without the evidence of character the question of guilt or innocence should be *in equilibrio*, or if upon the whole evidence the reasonable doubt is created even by the aid of good character, the Jury should acquit. But as good men become bad, and bad men become good, the weight due to clearly established facts indicating guilt, should not be disregarded.*

XI. The Jury should not fail to inquire if there was a MOTIVE to kill.

Crime is rarely committed without motive, and as this may be greater or less in its character, and may operate more strongly with those who have thrown off all moral restraint, or less with those peaceably disposed, these considerations should not be overlooked. *Becaria on Crimes*, Ch. 13; 3 *Phil. on Ev.*; *Cowan & Hill's Notes*, 475. If the defendant had ceased to love, and learned to loathe her husband, or otherwise; if she had formed a criminal intimacy which could not be fully gratified while he stood in the way, and if that had been carried to a greater or less extent, or the contrary, it may furnish the exciting cause that prompted

* The case of Lord Bacon has been used to illustrate how a man of high character and position may be guilty of a departure from the path of rectitude. It was in reference to this that Pope wrote :

"If parts allure thee, look how Bacon shines,
The greatest, wisest, meanest of mankind."

Where the testimony is positive and satisfactory, then evidence of good character can not avail. *U. S. v. Freeman*, 4 *Mason*, 510; *Com. v. Hardy*, 2 *Mass. R.*, 317. Unless the evidence is dubious, or the testimony presumptive, general character, it has been said, is entitled but to little weight, though this is matter for the Jury to determine. *State v. Wells*, 1 *Coxe*, 424; *People v. Vane*, 12 *Wend.* 82. It can not always avail against a circumstantial case, which may sometimes be so strong as to overcome positive testimony. The *Struggle v. U. S.*, 9 *Cranch*, 71; 1 *Stark Ev.*, 35; 3 *Macnalley's Ev.*, 579, note 317, 318, to page 469; *Phil Ev. C. & H.*, Notes 623, Pt. 1; see Note 293, p. 481; *People v. Turrell*, 1 *Wheeler, Cr. C.*, 34; *People v. Preston*, 1 *Wheeler, C. C.*, 41.

on to crime, or the reverse; and aid in solving the question of guilt or innocence. It is said by Starkie, (I vol. Ev. p. 491.)

"The connection between a man's conduct and his motives, is one of a moral nature, pointed out by experience. It is by their experience of such connections that Juries are enabled to infer a man's motives from his acts, and also to infer what his conduct was from the motive by which he was known to be influenced. In criminal cases, proof that the party accused was influenced by a strong motive of interest to commit the offense, proved to have been committed, although exceedingly weak and inconclusive in itself, and although it be a circumstance which ought never to operate in proof of the *corpus delicti*, yet when that has once been established *aliunde*, it is a circumstance to be considered in conjunction with others, which plainly tend to implicate the accused."

And in a note it is said :

"The total absence of any apparent motive must always operate strongly as a circumstance in favor of ~~the accused~~, especially where there is no reason to apprehend any unsoundness of intellect. *A fortiori* does the principal operate when the supposed agent was actuated by contrary motives."

X. Wills, in his Essay on the Principles of Circumstantial Evidence, in treating of the declarations of intention, says in substance that—

"It is not uncommon with persons about to engage in crime, to utter menaces, or to make obscure and mysterious allusion to purposes and intentions of revenge, or to boast to others whose standard of moral conduct is the same as their own, of what they will do; or to give vent to expressions of purpose. Such declarations or allusions may be of great moment when clearly connected by independent evidence with some subsequent criminal action. The just effect of such language is to show the existence of the *disposition*, from which criminal actions proceed, to render it less improbable that a person proved to have used it, would commit the offense charged, and to explain the real motives and character of the action. But proof of such language can not be considered to dispense with the obligation of strict proof of the criminal facts; for though malignant feelings may possess the mind, and lead to intemperate and even criminal expressions, they nevertheless may exercise but a transient influence, without leading to action."

(See review of a work on "The Theory of Presumptive Proof," note 305 to p. 460, Phil. Ev. Cowan & Hills' Notes, part 1, p. 556).

II.

I will now direct the attention of the Jury TO THE SEVERAL PARTICULARS WHICH MUST ALL BE FULLY ESTABLISHED, EITHER AS—

I. FACTS PROVED, OR,

II. AS INFERENCES OF LAW THEREFROM.

The statute defining and punishing murder in the first degree, reads thus :

1. SECTION 1. *Be it enacted by the General Assembly of the State of Ohio,* That if any person shall purposely, and of deliberate and premeditated malice, or in the perpetration, or attempt to perpetrate any rape, arson, robbery or burglary, or by administering poison, or causing the same to be done, kill another, every such person shall be deemed guilty of murder, in the first degree, and, upon conviction thereof, shall suffer death.

I. It must be proved that William Freet, named in the indictment, is dead, and that he died before the finding of the indictment by the Grand Jury, to wit : April 1st, 1863. The indictment was that he died on the 13th day of February, 1863, but the precise time is not material. The proof of the death of William Freet should be strong and cogent, producing the full assurance of moral certainty. *Wharton on Homicide*, 312 ; *Criminal Law*, Sec. 745 ; 3 *Greenleaf Ev.*, Sec. 30.

If, therefore, there be any, the least fair and reasonable doubt upon this point, the defendant should be acquitted. Starkie on Evidence, Part 4, p. 944 ; 2 Hale, P. C., 290 ; 3 Phil. Ev., Cowan & Hills' Notes, 564-5, 575 ; 2 Leach, 581 ; Russ on Cr., 682.

II. It must be proved that the death of William Freet was caused by poison, and that he died in Union county,* Ohio.

* The Ohio Crimes Act of March 7, 1845, provides—

That if any person shall give any mortal blow, or administer any poison to another, in any county within this State, with intent to kill, and the party so stricken or poisoned, thereof shall afterwards die in any other county or State, the person giving such mortal blow or administering such poison, may be tried and convicted of murder or manslaughter, as the case may be, in the county where such mortal blow was given, or poison administered.

The place of the death is therefore perhaps immaterial; but in this case

The indictment charges that his death was caused by swallowing four grains of a deadly poison called strychnine, but the amount is not material if death resulted from a poisonous and deadly dose, fatal in the particular case. On the part of the defense it is denied that there is any sufficient evidence that the death of William Freet was the result of poison. If it should be proved that Freet is dead, and if there should be no proof, by symptoms or otherwise,

as the death is averred to have occurred in Union county, and as there is no controversy on that point, it is safer to avoid any question as to the necessity of proof of this averment, and so the charge is given in the form above.

And as to the *venue* in murder by poison, see *Robbins v. State*, 8 Ohio St. R., 156.

In the case of *State v. Priest*, Common Pleas of Hardin county, (Columbus, Ohio, Medical and Surgical Journal, Dec. 1863,) where a question was made as to whether the poison was administered in Marion or Hardin county, LAWRENCE, Judge, charged the jury as follows:

"The poison must have been administered by the defendant in Hardin county, Ohio; but this does not require that he should have been in Hardin county at any time.

If the defendant, in Marion county or elsewhere, delivered into the hands of Joseph Saul, (the deceased) for the purpose of being by him swallowed into his body, the poison of which he died, and for the purpose that he should carry it to Hardin county and there swallow it, or for the purpose that he should carry it whithersoever he might go, and there swallow it, and if he having so received it of the defendant for such purpose, carried it to Hardin county and there swallowed it, the accused would be guilty of administering poison in Hardin County.

So if in Marion county or elsewhere, the defendant delivered poison to some other person with directions, and intending that it should be carried to Hardin county, or wheresoever Joseph Saul might go, and there should be given to and swallowed by him into his body; and if in pursuance of that direction, it was carried into Hardin county, and there by such person or by his procurement, given to and swallowed by said Saul, that is an administering in Hardin county, even if poison had been given elsewhere not producing death. But if no fatal dose was administered in Hardin county, the defendant can not be convicted.

If a dose was given in Marion county, which in time would have proved fatal, yet if an additional dose was given in Hardin county which accelerated the death, that is a sufficient administering in Hardin county."—*Respublica v. Malin*, 1 Dall., 33.

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as to the cause of the death, it would be presumed to have resulted from natural or lawful causes.

And if poison is even found in the system, it may not necessarily or conclusively demonstrate that the patient died of poison, even in the absence of proof tending to show its introduction after death; for it may be in *medicinal* rather than *poisonous* doses, or if not, death may possibly in fact have resulted from other causes; but whether so or not is for the jury to determine. *Wills on Circumstantial Evidence*, 209. *Wharton's Cr. Law*, Sec. 749; *Whart. Homicide*, 327; citing *Puceinotti*, 250; *Deveigie III*, p. 708; *Mettermaier Deut. St. S.*, 124.

But it is properly said :

"In the case of death by poisoning it is not necessary to prove the particular substance or kind of poison used; nor to give direct and positive proof what is the quantity which would destroy life; nor is it necessary to prove that such a quantity was found in the body of the deceased. It is sufficient if the Jury are satisfied from all the circumstances, and beyond reasonable doubt, that the death was caused by poison administered by the prisoner."—3 *Greenleaf's Evidence*, sec. 135; *Wharton's Homicide*, 323, 325.

In this particular case the claim is that death was caused by strychnine poison, as there is no evidence as to any other poison; if not so caused, there can be no conviction.

Whether so caused or not the Jury will determine. In this connection it is important to consider the evidence so far as it may tend to prove death by poisoning. The symptoms during life; the *post mortem* appearances and indications; the fact whether strychnine was found in the body by chemical analysis after death; the moral circumstances and evidence tending to show the administering of strychnine, are all, so far as they exist in evidence, to be carefully considered by the Jury.

If the death of William Freet can, or cannot, be attributable to, or accounted for, on natural causes; if he was, or was not, suddenly seized with convulsions and did, or did not, manifest symptoms which are the inevitable results of strychnine in a poisonous dose in the system; if the appearances after death were, or were

not, those which follow the administration of such dose ; if there was, or was not, a motive to poison the deceased by those who had the possession of strychnine and the means of administering it ; if the presence of strychnine in the body of the deceased is, or is not, clearly demonstrated as a matter of science and fact ; these, and like circumstances, together with the prisoner's language and conduct in relation to the subject, or forming part of the *res gestæ*, and whatever other evidence may throw light on the question, are all proper to be considered with a view to determine whether the conclusion is established that death has, or has not, been the result of poisoning by strychnine, no matter how minute may be the quantity of that poison revealed by chemical analysis. And

III. It must be proved that defendant *administered* to William Freet strychnine, causing his death.

The act of "*administering poison*," has acquired a legal signification, imparting not simply the *prescribing* or giving the drug, but *directing* and *causing* it to be taken. There can be no *administering* unless the poison was taken into the stomach by the person to whom it was administered—*Robbins v. State*, 8 Ohio St. Rep., 164. That is, the overt act of homicide by administering poison consists not simply in prescribing or furnishing the poison, but also in directing and causing it to be taken. If the defendant in person delivered strychnine to William Freet with the intent that he should swallow it into his body, and if by the advice, direction or procurement of defendant it was thus swallowed, that is an *administering*. And such acts would constitute an *administering*, no matter under what name or form—in tea, on food, in powders, or drink, or under the name of a medicine, if defendant knew it was a poison, gave it in a fatal and deadly dose, and caused it to be swallowed by William Freet. So, if the defendant thus knowingly placed strychnine in food, or drink, or with medicine, with intent that he should thus take it and knowing that he would, or would be likely thus to take it, that is an *administering* by her, if he in consequence thereof voluntarily took it up from the position in which she placed it, and

swallowed it. It is not necessary to constitute an administering by her that he should have received it from her hands, or that she should stand by and deliver it to him.

If the defendant furnished strychnine to some other person, whether communicating its deadly character or not, but intending that it should be given to and swallowed by William Freet, and directed that person to furnish it to him in any form, or placed it in a position knowing and intending that such other person would and should deliver it to him to be swallowed by him, and in pursuance or in consequence thereof the strychnine was given to and swallowed by William Freet, then defendant is thereby guilty of an *administering poison*.

If the deceased, intending to commit suicide, voluntarily took the strychnine, and if defendant furnished it to him, or aided him, she is guilty of administering.—1 Bishop's Crim. Law, 342; *Rex v. Hughes*, 5 Car. & P., 126; *R. v. Alison*, 8 C. & P., 418; *R. v. Russell*, 1 Moody, 356.

In all these cases or forms of administering, the defendant is not guilty of administering as charged in the indictment in this case, unless her agency in some of the forms described resulted in the swallowing by William Freet of THE poison OF WHICH he died.

But there is another view of this feature of the case.

On the part of the State it is claimed that William Freet died of strychnine on the evening of the 13th of February, 1863; that Lothrop Converse on that day procured strychnine in Columbus and in the afternoon and evening of that day twice visited the house of William Freet, where defendant was, and in some form induced her to administer the poison, or, by her co-operation, so placed it that it was taken, and produced death.

For the defense, it is maintained, among other things, that there is no sufficient evidence that Mary Freet knew of, or participated in, any such purposes or acts, or in any way aided their accomplishment, or knew of the presence of strychnine, if it was thus carried there.

If Converse procured the strychnine which caused the death of William Freet; carried it to his house, and there deposited it, in medicine, in tea, in food, or drink, knowing that it would, or was likely to be, and intending that it should be, taken and swallowed into the body of William Freet, and if, in consequence thereof, it was so swallowed, that would be an administering of poison by Converse.—*Summons v. State*, 9 Western Law Journal, 411.

And if Mary Freet knew of these purposes and acts, was present aiding and abetting them, with the felonious design to poison William Freet, contributing to accomplish that purpose, and if the result was that the strychnine was swallowed, as stated, then she, too, as well as Converse, is guilty of administering poison.* *Com. v. Desmarteau*, 24 Boston Law Rep. 155, July, 1861; *Rex v. O'Brien*, 1 Dennison C. C. 9; *Rex v. Downey*, 1 Dennison, C. C. 62; Arch. Cr. Pl. 12; 3 Greenl. Ev. 138; 1 Greenl. Ev. 111; Foster 259, 350; *R. v. Culkin*, 5 C. & P. 121; 1 Hale P. C. 461; 1 Russ on Crimes, 26; *Reg. v. Tylor*, 8 C. & P. 616. In other words, if she knew of such felonious design on the part of Converse, and for the purpose of accomplishing it, rendered assistance to him in any form, either to aid his access to the house, or by producing or pointing out to him food, medicine, tea or drink in which to deposit strychnine, and this resulted in causing the poison

* Greenleaf says: "In order to prove that the prisoner was the guilty agent, it is not necessary to show that the fatal deed was done immediately by his own hand. If he were actually present aiding and abetting the deed, or constructively present by performing his part in an unlawful and felonious enterprise expected to result in homicide, such as by keeping watch at a distance, to prevent surprise, or the like, and a murder is committed by some other of the party, in pursuance of the original design; or if he combined with others to commit an unlawful act, with the resolution to overcome all opposition by force, and it results in murder; or if he employ another person unconscious of guilt, such as an idiot or child of tender age, as the instrument of his crime, he is guilty, as the principal and immediate offender, and the charge against him as such will be supported by evidence of these facts.

to be swallowed as alleged, then the defendant is guilty of administering poison.

The Jury will consider all the evidence to ascertain if in any of these forms the defendant is or is not guilty of administering poison. If there be no evidence to show the actual possession of strychnine by defendant, or her knowledge of its presence, that is a circumstance, the importance of which should not be overlooked. But the absence of such evidence should not relieve from guilt, if other circumstances establish it to a moral certainty.

The jury may properly inquire, had Converse strychnine; had he the opportunity during the afternoon of February 13th, of mingling it with powders or medicine provided for William Freet; could he do so unobserved by defendant; how did it compare in appearance with calomel and Dover's powder mixed; or could he in some form mingle poison with any medical solution or other matter—the wafers, if such they were—prepared in which to administer such medicine, in the temporary or other absence or inattention of defendant, or without her knowledge.

And it may be material to inquire how soon after strychnine is administered it will manifest indications of its dangerous effects; whether powders of medicine were administered by defendant, and when; whether tea and toasted bread, by whom prepared, and when; if convulsions followed, when? These and every other fact and circumstance which may enlighten the Jury, whether indicating a previous purpose to poison, if such evidence there be, or the absence of such design, or as demonstrating a gentle and peaceable nature, as well as the absence of any sufficient evidence of guilt, if such there be, are all to be considered to ascertain if crime is shown to a moral certainty.

Was strychnine placed in the milk in which Freet was to eat mush? Was the mush made bitter with salt to destroy the taste of strychnine in his milk? Was this mush and milk the cause of the cat's death?

You will give due inquiry to all facts and motives. And,

IV. To authorize a conviction of murder in the first degree, it must be proved not only that the defendant administered strychnine, as stated, but that its administration was accompanied by these circumstances, to-wit, that defendant did it :

1. KNOWING IT TO BE A DEADLY POISON ;
2. UNLAWFULLY IN A POISONOUS DOSE ;
3. PURPOSELY ;
4. FOR THE PURPOSE AND INTENT TO KILL WILLIAM FREET ;
5. IN UNION COUNTY.

Some of these must be proved as MATTERS OF FACT, while others may be thus made manifest, or may appear as PRESUMPTIONS OR INFERENCES OF LAW, from facts so proved, and this makes it necessary to explain them a little more in detail. And,

I. The defendant cannot be convicted of murder in the first degree, unless she administered strychnine *knowing it to be a deadly poison*. It is not necessary that she should have known the name of the poison if she knew it was a deadly poison, but if she did not know what the material was, it must be affirmatively proved that she knew its poisonous and deadly character.

But if the State has proved the administration by the accused of strychnine, or any other poison equally well known, and that she knew it was strychnine or such other poison that she administered, and death has resulted, a presumption arises in the absence of any other proof that *she knew* the deadly character of the drug, and intended to kill. *Farrer v. State*, 2 Ohio St. R. 75.

In other words, if she administered strychnine knowing it to be strychnine, the law presumes her knowledge of its deadly character, and it is not necessary, therefore, otherwise to prove it. But the circumstances may rebut this presumption, and whether they do so or not is for the jury to determine.

For the defence it is maintained that the accused did not administer any poison, but if so, that it does not appear that she knew

it was strychnine or other deadly poison. How this is the Jury will determine. And,

II. Was strychnine administered *unlawfully* and *in a poisonous dose*?

If the State should prove the administration by the accused of strychnine, knowing it to be such, and that death has resulted, a presumption arises that it was *unlawfully* administered, and, of course, in a *poisonous dose*. *Farrer v. State*, 2 Ohio St. R. 75.

But as strychnine and other poisons are sometimes used *medicinally*, and may be administered in other than fatal doses, and for legitimate purposes, if there be sufficient evidence to authorize the conclusion that strychnine was administered in good faith as a curative, or for a legitimate purpose, but that death has unfortunately resulted, then there could be no conviction for murder.

Thus, in *Commonwealth v. Keeper of Prison*, 2 Ashmead, 227, KING, Judge, remarks :

"Suppose, for instance, a quack should administer a poisonous drug, not with intent to kill, but under the honest but mistaken idea of relieving his patient; but when, from the magnitude of the dose, death ensues. Here would be a case of killing by poison, but not one of murder by poison; for who could regard such a case as one of willful, premeditated, and deliberate killing?"

And WHARTON remarks on this case :

"It is submitted that the illustration used of an overdose by a quack, is not quite in point. Death from such a cause would not, at common law, be murder.—Wharton on Homicide, 359.

And see page 131; 1 Hale, 429; 4 Bl. Com. 197; *R. v. Van Butchell*, 3 C. & P., 629; Wharton's Crim. Law, sec. 1015—Not any crime; *Com. v. Thompson*, 6 Mass. R., 134; Starkie's Ev. Pt. 4, p. 949, n.

And so is the law in Ohio, *Robbins v. State*, 8 Ohio St. Rep., 178, 157. And,

III. The defendant is not guilty of any crime unless she *purposely* administered strychnine.

That is, if strychnine was administered by mistake, supposing

it was some other substance, or in some other preparation, as in medicine or food, or drink, without a knowledge of its presence, as the result of accident, mistake, or even negligence; in such case there would be no criminal guilt.

The acts which constitute the administering must have been intentional, and done for the purpose of causing strychnine to be swallowed by the deceased.

But if the accused administered the strychnine, the law *presumes* it was *purposely* administered, and the circumstances of necessity, accident, or infirmity, which justify excuse, or extenuate the act, are to be proved by the accused, unless they arise out of the evidence produced against her.—*Starkie's Ev.*, pt. 4, p. 948. And,

IV. At common law in England, and most of the States, a specific *purpose to kill* is not necessary to constitute the crime of murder. But it is now settled in Ohio that in homicide committed in administering poison, the administration of the poison must be accompanied with, or prompted by, a purpose to kill.

The defendant, therefore, cannot be convicted of murder unless she administered to William Freet strychnine with intent to cause his death. An intent, distinctly formed, (*) premeditated and deliberated on, even for a moment before it is carried into act, is enough.—*Keenan v. Com.*, Pa. Sup. Ct., May, 1863, 11 Pittsburg Legal Journal, 1.

But it must be a purpose the result of intellectual faculties, not that instinctive and spontaneous reaction of the mind and body against insult or injury—the outgushing of a blind and thoughtless rage, which is often the result of no distinctly formed intention.

And by a construction of the statute, departing somewhat from its language and the tenor of former decisions, it is now, until the Supreme Court shall otherwise determine, to be regarded as settled

(*) I insert in the text the words "premeditated and deliberated on," merely to follow a dictum of Bartley, C. J., in *Robbins v. State*, and in a note at the conclusion of the case I give my reasons for believing they should be here omitted.

that there can be no conviction for murder in the first degree unless in a case where there is a PREMEDITATED intention to destroy life. Thus, in *Robbins v. State*, 8 Ohio St. Rep., 181, it is said :

"In a recent decision of the Supreme Court of Pennsylvania it was held that a *premeditated intention to destroy life* is indispensable in order to constitute murder in the first degree under the statute of that State.—*Johnson v. Com.*, 24 Pa. St. R., 387. Now, the term *murder*, used in the Pennsylvania statute, although it imports a homicide with malice aforethought, it does not *per se* import an intentional killing. And if *premeditated intention to destroy life* is essential to murder in the first degree under the Pennsylvania statute with what reason could it be dispensed with in any reasonable interpretation of the statute of Ohio?"

Premeditation requires action of the mind—it is an exercise of the intellectual faculties, calling into requisition reason, reflection, judgment and decision.—*Clark v. State*, 12 Ohio R., 494.

But, as already stated, the law fixes no particular time during which it must exist ; it is the actual existence of the premeditation which the law requires, no matter how short the time may be.—*Shoemaker v. State*, 12 Ohio R., 52.

In murder cases generally, where the killing is proved against a party, and nothing more, the presumption of law is that it was done *purposely*, but not with *premeditated* purpose, and so is only murder in the second degree.—*State v. Turner*, Wright's R., 20.

But when poison is administered with a purpose to kill, resulting in death, the law *presumes* that the *purpose* was *premeditated*. The turpitude of the act itself furnishes all the evidence of premeditation which the law, in the absence of any rebutting evidence, requires.—*Robbins v. State*, 8 Ohio St. R., 132, 186.

The *premeditation*, therefore, becomes important, as the crime would be reduced to murder in the second degree by evidence proving its absence or raising a reasonable doubt of its existence.

It may be difficult, I will not now say impossible, to conceive of an *intentional killing by poison*, without *premeditation* as to such intention, but the possibility of such case—the question whether the evidence makes such case where there is any proof that might

tend in that direction, is one which the law entrusts to the decision of the jury.

Where the State proves the administration by the accused of strychnine knowing it to be such, and death has resulted therefrom, a presumption arises in the absence of any other proof that the defendant intended to kill.—*Farrer v. State*, 2 Ohio St. R., 75.

This legal presumption may be aided and strengthened by express proof of actual intention to kill, by any evidence showing it.

The purpose or intention to kill implies an act of the will—an intention, a design, to do the act.

The presumption of an intent to kill, and the evidence in aid of it, may be rebutted by any satisfactory proof which negatives its existence or raises a reasonable doubt thereof.—*Com. v. York*, 9 Metc., 93; 2 Bennett & Heard's Lead. Cr. C., 504. *Com. v. Bradford*, 9 Metc., 268; *Com. v. McKie*, 1 Gray's Mass. R., 61; 1 Bennett & Heard's L. Cr. C., 352.

Thus if the proof in a given case should show that strychnine was administered only in a medicinal dose, and especially by a physician, or other person in good faith prescribing for the purpose of effecting a cure, in a case where it might be proper, the presumption of law would be that death was not intended, since the law presumes only that the natural and usual consequences will follow from an act. But where there is an intent to kill, and all the other elements of murder present, if death should unaccountably, or from special circumstances or conditions of the system, but certainly result from the administration of less than an ordinary poisonous dose, it would still be murder. 1 Hale, 428, Stark. Ev., pt. 4, p. 947. And so if the circumstances of a case should show that a poison were administered for the purpose of procuring an abortion, and death ensued, especially by one ignorant of the fatal effect of the poison, that could not constitute murder in the first degree, although it might be manslaughter, or be otherwise punished under the statutes relating to that subject. *Robbins v. Ohio*,

8 Ohio St. R., 131, 190; *Com. v. Keeper of Prison*, 2 Ashmead, 227; Wharton on Homicide, 359; *State v. Dowd*, 19 Cown. R., 391; 2 Bishop, Cr. L., 658; *Souther v. Com.* 7 Grat., 673.

"In the proof of intention," says Greenleaf, "it is not always necessary that the evidence should apply directly to the particular act with the commission of which the party is charged for the unlawful intent in the particular case, may well be inferred (with circumstances sufficiently convincing in the particular case,) from a similar intent proved to have existed (against the same person) in other transactions done before that time." Evidence, vol. 3, sec. 15.

If there be satisfactory proof of an attempt by defendant to administer poison to William Freet, recently before the time of his death, if in his coffee and milk the poison existed, placed there by defendant, this circumstance should not be overlooked, but the Jury will not fail to bear in mind the necessity of ascertaining whether such attempts are established before they should be regarded as evidence of guilt.

If you find the essential facts of murder in the first degree to exist beyond a reasonable doubt, you will return a verdict accordingly.

But if you do not find these, you will proceed to inquire is the defendant guilty of murder in the *second degree*?

It will be observed I have not named either *malice* or *deliberate and premeditated malice* as an ingredient of the crime of murder in the *first degree*. Until recently all the reported cases of murder by poisoning in Ohio treated this as an element of the crime, not because the statute in terms so declared, but because its *general purpose* was regarded as leaving homicide committed "in the perpetration or attempt to perpetrate any rape, arson, or robbery, or by administering poison," as the crime thus committed existed at common law, that is, killing with deliberate and premeditated malice, but not necessarily with a specific intent to kill.

But in *Robins v. State*, 8 Ohio St. R., 187; *Bartley C. J.*, in speaking of an intentional killing by poison, says: "Malice is

not made essential in order to constitute the crime" of murder in the first degree. And see page 85.

But it is also said in the same case that in "homicide effected by administering poison, or causing the same to be done, the danger and atrocity of the means and manner of the killing supplies the place of the deliberate and premeditated malice. * * Indeed, *intentional killing* by means of administering poison includes, and *per se*, imports malice, so that it would be mere tautology to mention malice as a distinguishing feature in the definition of it. And the atrocity of this kind of homicide precludes the necessity of the inquiry whether the malice which it imports is deliberate or not." Page 187 and 189.

From this it will be understood that malice is not made a part of the *statutory definition* of the crime of murder in the first degree, though every intentional killing by poison conclusively imports malice, so that it necessarily exists in fact as an element of the crime. And this leads us to the inquiry is the defendant guilty of murder in the second degree?

This statute makes this further provision :

2. SEC. II. That if any person shall purposely and maliciously, but without deliberation and premeditation, kill another, every such person shall be deemed guilty of murder in the second degree, and, on conviction thereof, shall be imprisoned in the penitentiary, and kept at hard labor, during life.

Murder in the first and second degree, by *ordinary violence*, may be thus defined murder in the first degree, is an intentional killing, with deliberate and premeditated malice, while murder in the second degree is an intentional malicious killing, but without deliberation and premeditation.

But murder in the first degree by administering poison is described a little differently.

It is a killing by administering poison with a premeditated* purpose to kill.

The only difference between murder in the first and second degree by poisoning therefore consists in this, that in the first degree PREMEDITATED* purpose to kill is essential, while in the

* In a note at the end of the case I have given my reasons for believing that *premeditation* is not necessary to constitute murder in the

second degree the *purpose to kill* is requisite, but not a premeditated purpose; and *malice* is by the statute an element of murder in the second degree, while it is not a statutory descriptive element, but is so in fact in murder in the first degree.

If, therefore, every fact exists necessary to constitute murder in the first degree, except only that the *premeditation*, as applied to the purpose to kill, is disproved, or if there is a reasonable doubt of its existence, then you should find the defendant guilty only of murder in the second degree. And if the *malice* implied from the unlawful administration of poison is shown to be wanting in the qualities of deliberation and premeditation, then the crime is only murder in the second degree. That is, in murder in the second degree by poisoning, the essential facts are these :

- I. THE DEATH OF WM. FREBT IN THE COUNTY.
- II. THAT HE DIED OF POISON.
- III. ADMINISTERED BY DEFENDANT.
- IV. IN THE COUNTY.
- V. KNOWING IT TO BE A DEADLY POISON.

These must be proved, by circumstances or otherwise, beyond a reasonable doubt. The non-existence, or a reasonable doubt of the existence of any one of these essential facts, should acquit the defendant.

There are other elements of the crime, as,—

- I. THE PURPOSE TO KILL WITHOUT DELIBERATION AND PREMEDITATION.

- II. MALICE accompanying the *purpose* and its execution,*

first degree by means of poisoning, and that consequently it is impossible that an intentional killing by means of poison can be murder in the second degree.

W. L.

* Much of the law and the learning on this subject relates to malice, deliberation and premeditation, and as to what is proper evidence of these, either as matter of fact, or as presumption of law on given facts in ordinary cases of murder by violence.

Thus in England, and some of the States of this Union, in all cases

shown by the proof not to be accompanied with the qualities of deliberation and premeditation, if that be possible.

The same evidence and circumstances which would rebut, disprove, or raise a reasonable doubt of the death, its cause, the administration by defendant of poison, her knowledge of what it was, or of its deadly character, the purpose to kill, or the existence of malice, and what I have said in relation to them, apply as well to murder in the second as in the first degree.

But as a premeditated purpose to kill, and deliberate and premeditated malice are presumed from the fact of killing by poison, knowing it to be such, it is the sworn duty of the Jury to find the defendant guilty of murder in the first degree, if the other necessary facts are proved, unless on the whole evidence such *premeditation* or *deliberation* is disproved, or there is a reasonable doubt of their existence.

The important inquiry in this connection is this:—Was there premeditation or not?

And in this connection you will distinctly bear in mind that the atrocity of an intentional killing by poison, affords such convincing evidence of deliberate and premeditated malice, that it cannot be overcome except by proof of a satisfactory character, either to disprove it or raise a reasonable doubt of its existence.

when the fact of killing by the accused is proved, the law presumes that it was done with deliberate and premeditated malice, unless this inference is rebutted by the evidence; while in Ohio the law generally only infers from the fact of killing, malice, unless rebutted, but not the deliberation and premeditation. Roscoe's Crim. Ev., 21; *Com. v. York*, 9 Met., 93; 2 Bennett & Heard, L. Cr. C., 512; *State v. Turner*, Wright R., 20; Stark Ev., pt. 4, p. 948 n; Addis' Pa R., 138, 161, 257, 282; 2 Halsted R., 220; *Com. v. O'Harra*, Wharton's Digest, 148.

But in cases of homicide committed in administering poison, the turpitude of the felonious act is made to supply the place of the deliberate and premeditated malice described in the statute. That is, where death results from the unauthorized administration of poison, the law presumes therefrom deliberate and premeditated malice, and when this is not rebutted, no other or further evidence is required of it. *Robbins v. State*, 8 Ohio State R., 132, 186.

W. L.

And it must be remembered the law does not fix any period of time, during which the deliberation and premeditation must have existed. If the defendant actually formed the purpose to kill, and deliberated and premeditated upon it before she performed the act, she would be guilty of murder in the first degree, however short the time might have been between the purpose and its execution.

It is not time that constitutes the distinctive difference between murder in the first and second degree; but it is the actual existence of such purpose, deliberation and premeditation, followed by or accompanying the act resulting in death, that constitutes murder in the first degree; it matters not how short the time, if the defendant had turned it over in her mind, weighed and deliberated upon it. *Shoemaker v. State*, 12 Ohio R., 52.

If the evidence and circumstances in this case show the administration of the poison by defendant in a fatal dose, resulting in the death of William Freet, but if they also rebut or disprove the legal presumption arising from the facts stated, of a premeditated purpose to kill, and if all the other facts which I have described are proved, then it is the duty of the jury to find the defendant guilty of murder in the second degree—no more, no less.

It may be difficult to conceive of a case of the unlawful, willful administration of a deadly poison, with a purpose to kill, by one having knowledge of its fatal effects resulting in death, where the crime could be less than murder in the first degree; and it would be a reproach to the administration of justice; it would indeed be moral perjury on the part of the jury, if the rules of law should be evaded to escape from the duty of rendering the verdict which the law and the evidence requires.

And yet there are cases where the courts have sustained verdicts for murder in the second degree, where death has resulted from poisoning. *State v. Dowd*, 19 Conn. R. 391; *Robbins v. State*, S. Ohio St. R. 131, 195; Wharton on Homicide, 361, 359;

Com. v. Keeper of Prison, 2 Ashmead, 227; *Souther v. Com.*, 7 Grat. 673.

Thus in the case of the *State v. Dowd*, 19 Conn. R. 391, under a statute somewhat unlike that of Ohio, but for the purpose of this case, not differing from our statute, as it has been construed, the court read :

"It [the statute] provides that murder perpetrated by means of poison, or by lying in wait, or by any other kind of willful, deliberate and premeditated killing, shall be murder in the first degree; thereby implying that in all cases the crime must be the result of a willful, deliberate and premeditated act. Hence if any case can be supposed where murder may be committed by means of poison, and not be the result of such an act, then a conviction of murder in the second degree may be legal."

The learned Judge did not venture to state a hypothetical case of murder in the second degree, by poison administered with a purpose to kill.

I am not able to state a hypothetical case, or give a supposable set of facts which would justify such verdict ; and yet, if such case can exist consistently with the rules of law I have given, and if this is such case, it is the duty of the jury so to find, under the Ohio statute and decisions, which expressly require the jury to pass on the degree of murder.

MALICE is an element in the crime of murder in the second degree. Malice is an intentional, unlawful design to injure without just cause or provocation. It is a willfully formed design to do another a substantial, unlawful injury whether such design be prompted by deliberate hatred, or revenge, by the hope of gain, or other depraved motive, or springs from the wantonness and depravity of a heart regardless of social duty and fatally bent on mischief. *State v. Summons*, 9 Western Law Journal, 411; *Com. v. York*, 9 Metc. 93; 2 Bennett and Heard L. Cr. C. 504; *State v. Walker*, 8 West. Law Jl. 147. See *Com. v. Webster*, 5 Cush. 296.

The evil purpose, the design to injure, whatever its form may be prompted by, or indulged in to gratify anger, hatred, revenge, or other evil motive toward an individual, or it may be such evil de-

sign to thus injure indiscriminately any one who may come in the way, or the people generally, or any portion of them.

It implies and requires an exercise of the will, the judgment, reason, thought, intention.

It should be distinguished from blind impulse, the result of "sudden quarrel."

It should be distinguished from overpowering sudden anger from recent provocation, which, for the time, dethrones thought, or negatives the idea of any distinctly formed intention clearly felt, perceived, understood in the mind, with a knowledge of its consequences.

Malice may not always be cool, but it cannot exist unless the wicked motive is guided by the faculties of the mind, evil indeed though they be. In other words, mere passion or impulse is not malice, when the man cannot control himself; when animal excitement, not reason, rules the conduct. The infirmities of human nature are such that the man may be lost in excitement, the *furor* it produces, and that reduces homicide to manslaughter where the malice is absent.

The jury will have no difficulty as to this element of the crime. If there was not a *purpose to kill*, the defendant cannot be convicted of murder in the second degree.

If there was such *purpose to kill* distinctly formed, that is conclusive evidence of malice. In such case it could not be absent, if the defendant was rational and had reached years of discretion, and acted without a justifiable right or excuse for killing.

"Malice," says Judge Wright, "is implied where the killing is sudden, without any or great provocation; and, also, where the act done, necessarily shows a depraved heart, as the giving of poison."—Wright's Rep. 27; 2 Hale, 455.

State v. Summers, 19 Western Law Journal, 412; 3 Greenl. Ev. 14, 15, 145; 9 Metc. 103; 3 Gray, 463; 8 C. & P. 35; 2 Strobh. 77; 2 Gratt. 594; 2 Stark Ev. 515; Foster 255, 262; 1 Hale P. C. 38; 1 Hawk. P. C. B.; 1 Ch. 81, sec. 54; *Saunder's case*, Plowd.

473; *Gore's case*, 9 Rep. 81; *Robbins v. State*, 8 Ohio St. R. 186; 3 Stark. Ev. 492.

The legal presumption of malice may be aided by evidence of its existence in fact, that is of express malice, as distinguished from that which is only implied; as by proof showing the settled and formed purpose to kill, or other unlawful design to injure.

But this legal presumption, and the evidence in aid of it, may be rebutted; by proof showing the absence of malice, but not without disproving or raising a reasonable doubt as to the existence of a purpose to kill, or a lawful cause or excuse for the killing, or want of capacity on the part of the accused. It has been suggested by able judges that deliberate and premeditated malice is *conclusively implied* from death, even unintentionally, resulting from the commission of a rape, arson, or robbery. But it is not so as to murder by poisoning. Per Swan and Brinkerhoff, J. J., dissenting, in *Robbins v. State*, 8 Ohio St. R. 196, and authorities *ante*.

Malice may consist alone in a *formed purpose to kill* without premeditation; if the purpose is *premeditated*, then the malice is *premeditated*, and a deliberate killing with such premeditated purpose is clearly murder in the first degree.

But there may be *malice* where there is no purpose to kill, and it may be with or without deliberation and premeditation. Thus at common law, by which a purpose to kill was not indispensable to constitute murder a general, reckless, depraved, wicked design to **INJURE** materially, either a particular individual or any one that might come in the way, or a mass of persons generally, evincing a heart regardless of social duty, and fatally bent on mischief, was malice, and so it is now.

Now, if such "*deliberate and premeditated malice*" should exist in a case of killing by *ordinary violence*, with a *purpose to kill*, though the *purpose* was only once distinctly formed, but not *deliberate and premeditated*—not turned over in the mind—that would be murder in the first degree. And, if it be possible that a *pur-*

pose to kill by poison could exist without being a premeditated purpose, then that would be a case also of malice, but not premeditated malice, and so would be murder in the second degree, and it would be so even if accompanied by that other premeditated malice which I have described as existing independently, of a purpose to kill, and without such purpose being an ingredient of it. It could not be murder in the first degree under that ruling of the Supreme Court which requires a *premeditated* purpose to kill to constitute murder in the first degree by poisoning; and it must be murder in the second degree, because it has *malice* arising from the purpose to kill, and the superadded premeditated general malice could not change the result since it could not be murder in the first degree by means of poison, though it would be if the means were the less atrocious description of ordinary violence.

There are frequently cases where such superadded qualities do not affect the grade of the crime. *Nichols v. State*, 8 Ohio St. R. 435.

I have thus stated the law more at large on the subject of murder in the second degree, because the Supreme Court, in *Robbins v. State*, 8 Ohio St. R. 195, use this language:

"In the case of the *State v. Dowd*, 19 Conn. R. 391, the Supreme Court of Connecticut, in full consideration, sustained a verdict for murder in the second degree on an indictment for murder in the first degree by poison. If this could be done under the peculiar phraseology of the statute of Connecticut, which is identical with that of Pennsylvania, above recited, there certainly could not be a question as to its regularity under the statute of Ohio."

While, therefore, I say the jury may lawfully find such verdict, I must say the power to render it, is not a power to disregard the law.

If a Jury can say on the evidence that there is a reasonable doubt whether a purpose to kill by poisoning is or is not *premeditated*, when by law premeditation exists, if the purpose is distinctly formed, turned over in the mind, and deliberated on though but for

a moment, then may there be murder in the second degree by poisoning.

Whatever you do, do justice according to law without bringing disgrace on your name, reproach on the administration of justice, and the law itself into contempt.

If the evidence makes a case of murder in the second degree, you will so say in your verdict. But if not, you will proceed to inquire, is the accused guilty of manslaughter?

The statute makes this provision :

SECTION III. That if any person shall unlawfully kill another without malice, either upon sudden quarrel* or unintentionally, while the slayer is in the commission of some unlawful act; every such person shall be deemed guilty of manslaughter, and, upon conviction thereof, shall be imprisoned in the penitentiary, and kept at hard labor, not more than ten years, nor less than one year.

If the evidence in this case should prove the intentional unlawful administration of strychnine by defendant to William Freet, resulting in death, and if the evidence should further rebut both the existence of malice and an intention to kill, then she would be guilty of manslaughter only, and so should be the verdict.

The absence of malice and an intention to kill generally distinguishes manslaughter from other grades of homicide. But if the defendant was actuated by malice, and caused the death of William Freet by the unlawful intentional administration of strychnine to him, yet if the purpose to kill alone was wanting, then the defendant is guilty of manslaughter—no more, no less—and so should be the verdict. *Nichols v. State* 8 Ohio St. R. 435.

And if she unlawfully intentionally administered the strychnine to William Freet, even without a knowledge of its deadly or dan-

* "Reasonable protection," says O'Neil, J., in *State v. Crank*, 2 Rich. 75, "reduces a killing upon a consequent sudden heat of passion to manslaughter. What is reasonable provocation? It is as various as the different state and relations of man. Two freemen are equal, the slightest touching of the one by the other in a rude, insolent, or angry manner, might reduce a killing to manslaughter."

gerous character and without a purpose to kill, and thereby caused his death, she is guilty of manslaughter.

In other words : If the defendant unlawfully, but intentionally, administered to William Freet, at Union county, strychnine poison, of which he died by means of a poisonous dose, and thereby caused his death, but without any intention to kill, whether with or without malice, whether the defendant knew its deadly character or not, from any evil unlawful motive, then she is guilty of manslaughter.

In the case already stated of the administration of poison to produce an abortion, but without intent to kill the person to whom administered, but resulting in her death, the crime would be manslaughter. *Robbins v. State*, 8 Ohio St. R. 192.

And a case might possibly arise where poison might be administered in a transport of anger so sudden and overwhelming as to show the absence of malice and purpose to kill, and in such case the crime might, with the proof of the other necessary facts, be manslaughter only. There may be an instinctive and spontaneous reaction of mind and body against insult and injury, or from other cause, which is often the result of no distinctly formed intention, readily distinguishable from a clearly formed intent to take life. *Keenan v. Com.*, Sup. Court Pa., May, 1863; 11 Pittsburgh Legal Journal, 1.

It was properly said by Judge Thurman in the case of the *State v. Sammons*, 9 Western Law Journal, 411 :

"That the term malice in its legal acceptation has a more extensive meaning than in its ordinary colloquial sense. In common parlance we are apt to associate the ideas of malice with the passions of anger, hatred, or revenge; but malice in contemplation of law may exist without the presence of either of these passions. Indeed, the fact of suddenly excited anger oftentimes rebuts the presumption of malice; [to which I will add, and also may sometimes rebut the presumption of a purpose to kill;] as in the case of an unpremeditated fight, or affray; and some of the acts esteemed in law among the most deliberately malicious, are committed without either anger, revenge, or hatred."

Com. v. York, 9 Met. 93, 104; 2 Bennett and Heard Lead. Cr. C. 504; *State v. Walker*, 8 West. Law Journal, 147. See *Com.*

v. Webster, 5 Cush. 296; 3 Green. Ev. 14; 4 B. & C. 255; *Wills v. Noys*, 12 Pick, 324; *McPherson v. Daniels*, 10 B. & C. 272.

If the defendant was furnished with strychnine without a knowledge of its dangerous character, and purposely and unlawfully administered it to William Freet, from any unlawful motive, without his consent, without any intention to kill, without malice, deceiving him as to what it was, and his death resulted, in that unlawful act and such consequences, the defendant would be guilty of manslaughter.

It is not my purpose to recapitulate the evidence introduced to prove and to disprove the allegations of the indictment. It will be proper for you to consider them all fairly, faithfully, fully, honestly, with a view to ascertain the truth. When you have done all this, you will determine whether the evidence, beyond a reasonable doubt, establishes every fact necessary to constitute the guilt of the defendant.

You will bring to your deliberations the best powers of your minds and an honest conscientious purpose to do justice to the State and the accused. If, after all this, you entertain a reasonable doubt of the defendant's guilt, it will be your duty to acquit. If, on the other hand, her guilt is fully proved by the evidence, it will be your duty to return a verdict of guilty, however unpleasant that duty may be.

If you find the defendant not guilty of any crime, you will simply say so in your verdict.

If you find her guilty the statute makes this provision:

"That in all trials for murder the Jury before whom such trial is had, if they find the prisoner guilty thereof, shall ascertain in their verdict whether it be murder in the first or second degree, or manslaughter." 8 Ohio St. R. 194; *State v. Dowd*, 19 Conn. 391; *Johnson v. Com.* 24 Pa. St. R. 386.

If, therefore, you find the defendant guilty of murder in the first degree, you will, in your verdict, say:

"We, the Jury, find the defendant, Mary Freet, guilty of murder in the

first degree, in manner and in form as she stands charged in the indictment."

It will not be sufficient to say only that you find her guilty, or that you find her guilty of murder, or guilty in manner and form as she stands charged.

If you find the defendant not guilty of murder in the second degree, you will so say in your verdict.

If you find her guilty of murder in the second degree, and not guilty of murder in the first degree, you will say in your verdict :

"We, the Jury, find the defendant, Mary Freet, not guilty of murder in the first degree, in manner and form as she stands charged in the indictment; but we, the Jury, find the defendant guilty of murder in the second degree, in manner and form as she stands charged in the indictment."

If you find the defendant not guilty of either murder in the first or second degree, but guilty of manslaughter, your verdict will be :

"We, the Jury, find the defendant, Mary Freet, not guilty of murder in the first degree, and not guilty of murder in the second degree, in manner and form as she stands charged in the indictment.

But we, the Jury, find the defendant, Mary Freet, guilty of manslaughter in manner and form as she stands charged in the indictment."

Your verdict will be delivered orally in court.

The Jury retired, and in about one hour returned a verdict of NOT GUILTY.

NOTE.

At common law a *purpose to kill* was not an ingredient of murder—*malice aforethought* (deliberate and premeditated) was. The statute of Ohio changed the common law so as to make a *purpose to kill* essential to the crime, and created the grades of murder in the first and second degree; the only difference being that murder in the first degree is an intention to kill, with *deliberate and premeditated malice*; while murder in the second degree is an intentional malicious killing, without *deliberation and premeditation*.

Now the *deliberation* and *premeditation* might, if the statute so enacted, apply either to the

1. *Purpose* to kill; or to
2. *The malice*; or to
3. *The act of killing.*

Thus in *Keenan v. Com.*, Sup. Ct. Pa., May, 1863, 11 Pittsburgh Legal Journal, 1, it is held that :

"The deliberation and premeditation required by the statute of Pennsylvania are not upon the *intent*, but upon the *killing*. It is deliberation and premeditation enough to *form* the intent, and not *upon* the intent after it is formed. An intent distinctly formed even 'for a moment' before it is carried into act is enough."

At common law, as *purpose to kill* was not essential, the deliberation and premeditation were predicated of the *malice*.

A party might premeditate and deliberate on the *act of killing*—without forming or *having* the *purpose to kill*, and without carrying or intending to carry his meditations into execution—without intending to *do* the act.

So a party may deliberate on, and premeditate a malicious motive—may have *malice* in his heart or mind, without forming or having a purpose to kill.

A formed design to kill, without adequate provocation, just cause or excuse, is *malice*; but a formed design to maim, or otherwise seriously injure, without such provocation, cause or excuse, is also *malice*. A design to commit a rape, arson, robbery, or to poison, even, for the purpose of causing pain or sickness merely, is *malice*.

Now *this* malice, this wicked purpose to maim, wound, injure, rape, rob, or make sick, may be deliberated on and premeditated without forming, or having, or meditating on a purpose to kill.

The Ohio statute makes "*deliberate and premeditated malice*," and a *purpose to kill* essential to murder in the first degree; but not a *deliberate and premeditated purpose*. The deliberation and premeditation are by the statute referable to the *malice*, not to the *purpose to kill*, so far as murder in the first degree is concerned.

Of course a deliberate and premeditated purpose to kill, without adequate cause or excuse would necessarily be evidence of deliberate and premeditated malice; but there may be deliberate and premeditated malice, without a deliberate and premeditated, or without any purpose to kill.

The difference between *malice* simply, and *deliberate and pre-*

meditated malice is this : When the *thought* of doing any unlawful injury, without just cause or excuse, as to maim, wound, rape, rob, make sick, or materially injure or kill, first flashes on the mind, and the design to carry the thought into execution is distinctly formed, there malice exists with the first formation of the design, without a second thought upon, or turning over, or reflecting on it ; but this is not deliberate and premeditated malice.

If such thought of doing such unlawful injury is not only once distinctly formed, but is also turned over in the mind, deliberated on, made the subject of the thinking, intellectual, reflective faculties, no matter how short may be the time, that is deliberate and premeditated malice.

If *deliberate and premeditated malice* once exists, and in carrying the malicious purpose into execution the *thought of killing* for the first time flashes on the mind, and there distinctly exists, and accompanies and induces a homicide, even though such purpose to kill has not been turned over in the mind, or reflected on, after it is once clearly formed, that is murder in the first degree, for there is purpose to kill, (though not premeditated,) and there is deliberate and premeditated malice.

Thus if a party has unlawfully formed a design to wound, or materially injure, or make sick, as stated, and has deliberated and premeditated on *that* purpose, and in carrying *that* evil motive into execution, the *purpose to kill* first flashes on the mind, and distinctly exists, fully formed with a clear perception and consciousness of it, but without having reflected on, or turned it over in the mind, that is murder in the first degree, no matter how short the time between the purpose and its execution.

A *premeditated purpose* to kill is not necessary to constitute murder in the first degree, where the murder was preceded by some other deliberate, premeditated malice, as its prompting motive, but where the only evidence of the deliberate and premeditated malice is a purpose to kill, then it must be a deliberate and premeditated purpose to kill, for such purpose is evidence of deliberate and premeditated malice, and in that view alone the evidence of deliberation and premeditation as applied to the purpose to kill is material.

I know BARTLEY, C. J., in *Robbins v. State*, 8 Ohio St. R., 181, says :

"In * * , Pennsylvania, it was held that a *premeditated in-*

tention to destroy life is indispensable in order to constitute murder in the first degree under the statute of that State.—*Johnson v. Com.*, 24 Pa. St. R., 387. * * And if *premeditated intention to destroy life* is essential to murder in the first degree under the Pennsylvania statute, with what reason could it be dispensed with in any reasonable interpretation of the statute of Ohio?"

We have seen above, in *Keenan v. Com.*, that a *premeditated intention* is *not* requisite to murder in Pennsylvania, and the statute quoted in 8 Ohio St. R., 180, shows that it is not like the Ohio statute, and upon no principle can *premeditation* as to the *intention to kill* be required except as *premeditated malice* may be the *only* evidence of such premeditated intention.

It may be doubted whether the Supreme Court will sustain this *dictum* of the distinguished Chief Justice, but if they do, then the absence of *premeditation* as to the *purpose* to kill by poison, if that can be possible, may be made a ground for conceiving the possibility of murder in the second degree, by a case of intentional killing by poison.

But as murder in the second degree is an intentional malicious killing, malice is an ingredient of this crime, even by poisoning, though not so of murder in the first degree, as it is said by Judge Bartley.

In murder in the second degree, the unjustifiable, inexcusable *purpose to kill*, and the *malice*, whatever may be its motive or distinguishing character, are or may be each distinct, clear conceptions of the intellect, perfectly formed designs, acted upon and carried into execution without deliberating on, and turning over either in the mind—without premeditation or further reflection.

For if the purpose to kill be distinctly formed and turned over in the mind and deliberated on but for a moment, that is evidence of deliberate and premeditated malice.

Every purpose to kill imports some deliberation—so much as to form a distinct idea and purpose—but it does not necessarily import premeditation, for if so, every homicide with a purpose to kill, would be deliberate and premeditated as to its purpose, so as to thereby constitute deliberate and premeditated malice, unless rebutted.

But the deliberation, such as it is, implied from the *mere* existence of a purpose to kill, is not the deliberation of the statute necessary to constitute murder in the first degree, for that requires not merely

deliberation and premeditation enough *to form* the malicious motive, whatever it may be, but it requires deliberation and meditation *upon* the malicious intent after it may be formed, though it may be immediately—as suddenly as it is possible thus to deliberate and meditate.

In murder in the second degree, the act of killing is malicious with a purpose to kill, but there is an absence of deliberation and premeditation, both as to the purpose to kill and the malice; for as already stated, a deliberate, premeditated purpose to kill is evidence of deliberate and premeditated malice.

MALICE and PURPOSE TO KILL may be GENERAL or aimed at a PARTICULAR PERSON, and they may be EXPRESS or IMPLIED.

In Ohio general malice may constitute murder, though not in Pennsylvania. *Keenan v. Com., ante.*

Whether a general purpose to kill will support murder is not so clearly settled. *Robbins v. State*, 8 Ohio St. R. 183.

Deliberate and premeditated malice is *implied* from evidence of an intentional homicide, committed in the perpetration, or attempt to perpetrate a rape, arson, robbery, or by administering poison or causing the same to be done. 2 Stark. Ev. 515; Foster, 255; 3 Greenl. Ev. 145.

Malice (not premeditated) is inferred from an intentional killing. *State v. Turner*, Wright R. 20.

So malice is inferred from evidence of the perpetration of a felonious or unlawful act, from gross recklessness, from resisting an officer in the execution of his office, and in other cases. 3 Greenl. Ev. 146, &c.

When the law does not imply malice, it may be proved expressly to have existed, as by evidence of a deliberately formed design to kill, by the deliberate selection and use of a lethal weapon, knowing it to be such, a preconcerted hostile meeting, privily lying in wait, a previous quarrel or grudge, the preparation of poison or other means of doing great bodily harm, or the like. 3 Greenl. Ev. Sec. 145.

An intention to kill is presumed where death has resulted from the intentional use of means in a manner, the ordinary and natural consequence of which is to produce it, because every person is presumed to contemplate the ordinary and natural consequences of his acts. When one man is found to have killed another, if the circumstances of the homicide do not of themselves show that it

was not intended, but was accidental, it is to be presumed that the death of the deceased was designed by the slayer. 3 Greenl. Ev. Sec. 14.

The evidence to rebut the presumption of malice or intention to kill, or to disprove express malice or purpose to kill, must be various.

The proof of certain facts raised a presumption of the absence of malice; and killing "upon a sudden quarrel" is by the statute expressly excluded from murder.

Any evidence which shows an instinctive and spontaneous reaction of mind and body against insult and injury, provocation overpowering passion; any or all of these, after the result of no distinctly formed intention is competent as tending to disprove the existence of malice, or even a distinctly formed purpose to kill.

So self-defense, or a reasonable ground to apprehend danger to life or great bodily harm would be a justification.

Many of these distinctions are of more importance in cases of homicide by ordinary means than from poisoning, since a case of poisoning with a purpose unlawfully to kill must inevitably be murder in the first degree.

The Supreme Court has declared that a verdict of murder in the second degree by poisoning, could be legally sustained. A jury has the *physical power* to disregard the law and find a verdict for murder in the second degree, and as the State has no writ of error, and as a defendant might not object to error on his favor, perhaps such verdict could thus be sustained.

But when the statutes gives the jury power to determine the degree of murder, this is not a power to disregard the law.

It is respectfully submitted that murder in the *second degree*, by poisoning with a purpose to kill, resulting in death, is impossible. Such purpose is evidence of malice, and the *absence of deliberation and premeditation* under such circumstances cannot be conceived of, unless by want of capacity or legal authority thus to kill, which would excuse from all guilt, or unless there be other circumstances which might reduce to manslaughter. To hold that murder in the second degree is possible, an intentional killing by poison is to adopt a principle which can only mislead a jury, or give them a plausible excuse for violating their oaths. A little consideration will show that murder in the second degree by an intentional killing with poison is impossible.

At common law "malice prepense" was essential to constitute

murder in any form. It was presumed from the administration of poison, but might be rebutted, and thus the crime reduced to manslaughter by an illegal administration of poison resulting in death. A purpose to kill was not necessary for either crime.

In Ohio, according to the grammatical reading of the statute, neither purpose to kill nor malice deliberate and premeditated, or otherwise, is necessary to constitute murder in the first degree by poisoning. A killing by poison unlawfully administered makes murder. But the statute has been construed to require a *purpose to kill*, and Bartley, C. J., says: "Malice is not made essential in order to constitute the crime," for the peculiar phraseology of the statute does not apply "deliberate and premeditated malice" to murder "by administering poison." *Robbins v. State*, 8 Ohio St. R. 187.

Malice as all the books agree is implied in an intentional killing by poison, but if it were possible to conceive of such killing without deliberate and premeditated malice, still it is murder in the first degree. The absence of malice, deliberate and premeditated, or otherwise, even if proved according to the ruling of Judge Bartley, could not reduce the crime to murder in the second degree.

If it were possible to conceive of a purpose to kill in such case without the qualities of *deliberate* and *premeditated*, yet these are not essential to murder in the first degree, and an intentional killing by poison unlawfully administered, would be murder in the first degree without them, and could not be reduced to murder in the second degree by their absence.

I know Judge Bartley says a premeditated purpose to kill is requisite to constitute murder in the first degree, by poison. But this is an interpolation not authorized by the language of the statute. At most it only requires a purpose to kill—not a premeditated purpose. None of the reported cases in Ohio speak of a premeditated purpose to kill as essential to murder in the first degree by poisoning, or any other means, until the case in 8 *Ohio St. R.*, so held.

Fortunately Ohio, Pennsylvania, and Connecticut, are the only States which as yet have admitted the possibility of murder in the second degree by an intentional killing by poison. *Com. v. Keeper of Prison*, 2 Ashm. R. 22.

In Connecticut it is held that an intentional killing by poison may be reduced to murder in the second degree by proving that

the killing was not *deliberate* and *premeditated* because the statute then only makes such killing murder in the first degree.

And the same reason exists under the Pennsylvania statutes.—The statute of Pennsylvania is as follows:

"All murder which shall be perpetrated by means of poison, or lying in wait, or by any other kind of willful, deliberate, and *premeditated killing*, or which shall be committed in the perpetration, or attempt to perpetrate any arson, rape, robbery, or burglary, shall be deemed murder in the first degree."

But as we have seen, this reason does not exist in Ohio, since by our statute neither *deliberation* nor *premeditation* are necessarily predicated, of either the *purpose* to kill or the killing itself; in murder by rape, arson, robbery, and poisoning, the statute does not make premeditation, either as to purpose or malice necessary.

The first section of the murder statute by enumerating the cases of murder "in the perpetration or attempt to perpetrate any rape, arson, or robbery, or by administering poison," as murder in the first degree, without specifically describing such killing as malicious, seems to imply that there can be no murder in the second degree by such means. And so seems to read the second section defining murder in the second degree, for it only applies to cases of *malicious killing*. The effect of the Ohio ruling is manifesting itself in the latitude Juries will take sometimes.

In *State v. Culbertson, Com. Pleas Muskingum Co., June term, 1863*, defendant was convicted of murder in the second degree for poisoning her husband; *Ohio Medical and Surgical Journal, Nov. 1863*, p. 467.

In the case of *State v. Richard S. Richardson and Sarah Ann Healy*, in the Supreme Judicial Court of New Hampshire, Rockingham, October term, 1860, before Bell, C. J., and Doe, J., reported in "The Boston Medical and Surgical Journal" of March, 1861, vol. LXIV, the defendant, Richardson, was convicted of murder in the second degree for poisoning Stephen Healey with strychnine, at Auburn, N. H., March 6, 1860, Sarah Ann Healey was acquitted. The evidence proved the poisoning, but none of the circumstances occurring at the time. The report of the case does not show the law rulings.

In holding that a purpose to kill is necessary to constitute murder in the grammatical construction of the statute, is not clearly followed. (5 Western Law Monthly, 18.)

In *Robbins v. State*, 8 Ohio St. R., 190, it was held that the murder statute of 1835 did not repeal the 2d section of the act of 1834, providing for the offense of killing a woman pregnant of a quick child, by administering a drug.

The question that poison administered to procure an abortion resulting in death could not be murder because it was provided for in the act of 1834 was not made in the *Common Pleas*. It seems to me the act of 1834 and 1835 might better be reconciled by limiting the act of 1834 to *drugs*, as its language is other than poisons, and leaving poison to the operation of the act of 1835. The dissenting Judges in that case only agreed that poison administered to procure an abortion resulting in death was not murder because it is provided for in the act of 1834, upon their view that murder in rape, arson, robbery, and poisoning any other person but a pregnant woman; a purpose to kill is not necessary to make murder, a poison administered only to *make a man sick*, if it result in death, is murder in the first degree; while administering the same poison to *make a woman sick* and destroy an unborn child, is only punished by fine and imprisonment in jail, and is not murder. The absurdity of this seems to me to show that the act of 1834 should be limited to drugs, not applied to poisons likely to produce death.

But the opinion of the majority of the Court concedes that although, as they claim the act of 1834 applies to poisoning by an attempt to procure abortion, yet the manslaughter section of the murder statute of 1835 covers the same case, and a party may be indicted and punished either for the attempt to procure an abortion, or for manslaughter upon the same facts. If this be so, then why may not the same facts be punished either for the *murder* or the attempt to procure the abortion?

W. L.

The State of Ohio v. Edward Robbins.

In the reports of this case, as published in the January number of this Journal, the matter on pages 23 to 27 inclusive, was inserted by mistake, not being intended for publication. It consists in part of mere memoranda made soon after the case was tried, in a form not suited or designed for publication. The sheets accidentally fell into the hands of the printer, and as Judge Lawrence did not see the Journal until it was published, the error escaped correction.

American and Foreign Intelligence.

Scarlatina.

(Concluded from page 154.)

3. SYMPTOMS OF THE PERIOD OF DECLINE—ANASARCA—HEMATURIA—ECLAMPSIA—ŒDEMA OF THE GLOTTIS—PLEURISY—PERICARDITIS—RHEUMATISM—SCARLATINA WITHOUT ERUPTION—ANASARCA WITHOUT ERUPTION—TREATMENT.

We have still to study scarlatina in the symptoms which arise during its period of decline, and again in its elementary forms, that is to say in the forms which it assumes when it ceases to prevent its habitual characteristics, when it is so altered that unless it be examined attentively in many cases it would be impossible to recognize it. This part of the history of scarlatina is certainly the most important to study, less on account of its nosological relations than its practical relations.

Of these symptoms some may be considered as immediate, others as mediate, appearing much later than the first.

Here again, gentlemen, we meet the nervous symptoms. A person recovers from scarlatina—he is convalescing—you have no longer any anxiety on his account, when suddenly he commences vomiting, as in the beginning of the disease, delirium sets in, great agitation, a frequent pulse, and the patient dies in coma or in a convulsion. Still there is no anasarca, no albuminuria, no hematuria, nothing which can explain these phenomena. These symptoms are seen not only in children, but in adults. Appearing during the progress of the disease they have a much more terrible significance than when they are observed in the first stages of the disease, and even then they are of very serious portent. I cannot, then, be too emphatic in telling you, and in repeating that in scarlatina you cannot consider your patient cured till sometime after the final disappearance of the last symptoms of the disease. There is no disease which so deceives the physician, so embarrasses him in his anticipations; there is none in which one is more subject to errors of prognosis, errors which are inevitable. The fever is allayed. Only a few symptoms remain, apparently of little consequence; you announce a recovery, notwithstanding which the disease is still dangerous, suddenly destroys the patient, although there is nothing which would give you occasion to fear such a result.

Among the immediate phenomena of the stage of decline in this disease, anasarca is one which deserves your closest attention.

This symptom appears not in the most severe form, but rather in the moderate form of scarlatina. It afflicts convalescents not only when they are exposed to cold, not only when they have committed some imprudence, some error in diet, but when surrounded by the very best care, and attended to with the most constant solicitude. Messrs. Barthez and Rilliet have noticed in a fifth of the cases which have fallen under their observation, it does not appear till fifteen or twenty days after the eruption. I have seen it a month after the latter had completely faded away.

Anasarca often appears in the most sudden manner. It invades the face, the whole body and in some instances is so great that an infant, for example, which you have left at night thin and pitiful, seems fat the next morning, on account of the enormous puffiness which is present. This puffiness reaches its height often within twenty-four hours; it is universal, and to a degree rarely found in anasarca, consecutive to organic disease of the heart or Bright's disease. In these cases, on the contrary, it is slight, limited to the face and extremities, but is accompanied by a remarkable paleness of the skin, and is almost always preceded or accompanied by hematuria.

Hematuria is a symptom, in fact very common in scarlatina, although frequently it is not recognised. If the blood be pure, if it be only slightly altered by mingling with the acids of the urine, which is then of a black color, this hematuria is discovered and pointed out by the parents, but it is not noticed when the bloody secretion is slight, the urine remaining of a rose color. The color of bloody urine can also be greenish, like whey, a color essentially different from that of the urine of Bright's disease, and from all other kinds of urine. The first few days the passage of blood may be so great, that the deposit of blood globules, at the bottom of the vessel in which the urine is received may, when collected in the test tube, be one or two centiments in depth. The urine then looks like a strong solution of rhataxy. According as the disease progresses the urine is colored, as we have said, but blood can still be recognized by the altered globules, which are found adhering to the sides of the glass, or by the enormous quantity of albumen contained in the urine. When this is heated or treated by nitric acid, you do not get a white albumen, like that which is obtained in Bright's disease, but a brownish albumen, or a dark colored albumen, analagous to that of acute albuminuria.

Ordinarily children recover under a simple hygienic treatment; but in other cases, notwithstanding this treatment, the anasarca, when it is great, and when it has come so rapidly, carries off the patients by producing various symptoms which it is important you should be acquainted with.

At times some complain suddenly of a pain in the head, attended with difficulty in the sight; convulsions are then to be feared. It

is well to know this fact, for, upon the one hand, it is important to announce to the family what may be expected, and on the other hand, we can sometimes ward off the attack. To hold the head elevated, to place the legs hanging over the side of the bed, and to administer an active purgative are the means efficaciously employed under these circumstances. But most generally the convulsive attacks come on, whatever may be done, and sometimes are immediately fatal. At other times they are rapidly repeated with intervals of an hour and a half, an hour, or an half hour; are almost continuous, one hardly terminating before another begins, and the patient succumbs in a stupor and como.

Again, the anasarca is deeper. I have seen it attack the veil of the palate, the uvula, the epiglottis, the aryteno-epiglottic ligaments; and in the infant, in whom these lesions were present, symptoms of œdema of the glottis arose; he owed his life to the active cauterization of the superior part of the larynx. Doctor Richet, surgeon of the Hospital St. Louis, informed me that on the 11th December, 1857, he was called to see a child affected with this consecutive œdema of the glottis, upon whom he was obliged to operate for tracheotomy in order to save life. Cases of persons dying from this affection of the respiratory apparatus in scarlatina angina are not rare; suffocation takes place here readily, because the throat previously inflamed, this condition extends to the aryteno-epiglottis ligaments, attracting the œdema, and this tumefaction of the pharynx complicates the already tumefied opening of the larynx.

There are other symptoms which arise during the decline of scarlatina, much less known, though more so than formerly. I speak of malignant pleurisies, of pericarditis, and of rheumatism.

When we speak of eruptive diseases we say that rougeola invites thoracic diseases. This is true, for rougeola first attacks the bronchial tubes, it declares itself there before it shows itself upon the skin, as scarlatina manifests itself by a pharyngeal angina before any eruption of the skin appears. The first symptom of rougeola is the pulmonary catarrh, and from this it can be easily understood that when this catarrh is more severe than usual, inflammations of the lungs are frequently produced. Thus when on the seventh or eighth day of the rougeola the patient is still feverish, you can be almost certain that he has either an acute catarrh, or a pneumonia, or even a pleurisy.

Authors agree upon this point, that in scarlatina the thoracic organs are not affected. This is true in the acute stage of the disease, but not in the last stage. It is in fact, common to see symptoms of diseases of the chest suddenly appear in persons affected with anasarca, and even in those who are exempt from this complication. The lungs, in such cases, are not diseased, as occurs in rougeola, but the serous membranes, as the pleuro and pericardium.

These *scarlatinous* pleurisies are ordinarily of a serious charac-

ter, not only on account of the rapidity with which the effusion takes place, but also on account of the quality of the effused liquid. At the eighth or the tenth day of the pleurisy the liquid is often purulent like that of a puerperal pleurisy. The cause of this production of pus is a general infection, for which reason the eruptions and the inflammations of scarlatina have a great tendency to suppuration. At the Hospital for Children I operated for paracentesis of the chest upon a child sick with scarlatina, who at the twelfth day had already pus in the chest. Another little patient of whom I shall presently speak, who had anasarca without any antecedent eruption of scarlet fever, (which however prevailed in the family,) I also operated upon in the same way for pleurisy at the twelfth day, and drew off 750 grammes of perfectly formed pus. You will never observe anything like this except in those who are under the influence of a suppurative diathesis; as, for example, women in a puerperal state. There is, then, in these symptoms of scarlatina, a malignant influence which I shall speak of again.

This cause of suppuration so active in *pleurisy* is less so in the *pericarditis* of scarlatina. To be sure this latter affection is less frequent and more tardy in its appearance than the former. This phlegmasia of the pericardium, pointed out by Graves, has been particularly investigated by Mr. Thore, (of Sceaux,) to whom we owe the fact of having established the relation existing between this and scarlatina.* Mr. Thore has demonstrated that a certain number of patients during the convalescence of scarlet fever, have acute pericarditis, which in some instances is fatal, in others is cured.

We have said that *articular rheumatism* was a very frequent symptom in the exanthematous fever which we are now studying. We have shown it as it appeared in the acute stage of this disease, and have said that it was more frequently met with in the adult than is generally supposed. Graves has already intimated this fact. "In a great number of cases," he writes in his clinical lectures, "I have found articular rheumatism following scarlatina. Good observers, as M. M. Pideux, Murray, Valleix, among others, have also mentioned this fact, still it was generally overlooked, and for many years you have remarked that I always called attention anew to this remarkable coincidence. Generally, and this is singular, the rheumatism of scarlet fever is not very severe, more stationary than ordinary rheumatism, it is less subject to return, once it has left, the articulation first seized, it usually never returns there; usually also it gets well quickly, and without any interference on our part. This existence of the rheumatic deاثesis in scarlatina, however, furnishes to a certain extent, the explana-

* Dr. Thore. De l'hydropericardite aigue consecutive à la scarlatine et de son traitement. (Archives Generales de Medicine, Febner, 1856, 5e ler. [VII.] p. 174.)

tion of the development of pleurisy and pericarditis; it enables us to understand why these affections are so common, and how *endocarditis* can arise, for this inflammation of the internal membrane of the heart is also met with in scarlatina. The rheumatism of scarlatina at first usually attacks the articulations, then the serous membranes of the heart and the plura. In some cases, from the very first, it invades the thoracic organs without touching the articulations, as in ordinary rheumatism. Sometimes it assumes that terrible form, the suppurative, which is inevitably fatal. It is in fact as the sequela of scarlet fever, as of puerperal fever, that we observe suppurative rheumatism. It at first, for a few days, seems simple, then the articulations become more painful, an intense fever sets in, delirium supervenes, ataxo-adyonamic symptoms arise; the autopsy reveals the presence of pus in the articulations and in the sheaths of the tendons.

Such are the immediate symptoms occurring in the stage of decline of scarlatina. Other mediate symptoms coming on later, are allied to the first, and among them is *chorea*.

You will meet this disease in children six weeks; two or three months after scarlet fever. Dr. See* has in his works thrown much light upon the relations which exist between rheumatism and chorea. From these investigations, from subsequent observations, from those which I have myself made upon this subject, the following conclusion is drawn, that children seldom escape from the latter affection when they have suffered from attacks of acute articular rheumatism, and as a sort of corollary, (though this proportion is less absolute than the former,) it is also rare to find a child who has had St. Vitus' Dance who does not afterward, sooner or later, have the symptoms of rheumatism. In chorea, consecutive to scarlatina, the bellows murmur, indicating the existence of the cardial lesions, caused by the endocarditis which had preexisted. Sometimes the pericardial function sound, characterizing the rheumatism of scarlatina, shows that it is through this rheumatism that chorea is allied to scarlatina, and constitutes one of its mediate symptoms.

You have already seen, gentlemen, several instances of suppuration in different parts of the body, consecutive to exanthematous diseases. You have especially seen, following confluent variola, furnucles, superficial, and deep abscesses, which prolonged the convalescence, which often endangered life, and recently you have witnessed an instance of death in our wards from colliquative suppuration.

Subsequent to scarlet fever, certain mucous membranes, and particularly those of the nose and ear, are affected with a chronic eczema, which lasts for months or years, and the lesion of the mucous membrane extends deeper, the bones become carious and necrosed; lachrymal fistulas supervenes, perforation of the tym-

* Mimoires de L'Academie de Medicine. Paris, 1850, XV, p. 373.

panum, giving exit to the bones of the ear, carries off the petrous bone, irremediable deafness, facial paralysis, and in some cases, unfortunately too frequent, inflammation of the meninges and abscess of the brain in points which are in relation with the petrous portion of the temporal bone. These are terrible symptoms, which are also observed consecutive to measles, but less frequently than after scarlet fever.

We have now reached the most difficult part of the subject, the most important in a practical point of view, I speak of masked scarlatina, what I have called *latent scarlatina*. (*Scarlatina fruste*.)

You know what is meant in archaeology by a latent (fruste) inscription; one in which a greater or less part is wanting, a line, a letter, a point even only remaining. So, diseases may be latent (fruste), that is to say, there is often only a word in the symptomatological phrase, and from this word alone the physician is to reconstruct the whole phrase, as the archaeologist and the numismatist finds out the effaced inscription from the letters which remain. It is with the physician as with the numismatist and archæologist. At the commencement of their studies these have to read from well-preserved medals, from stones intact; while the student of medicine requires that all the symptoms which usually characterize a disease should be found in a case which falls under his observation. After awhile, however, the archæologist only requires a word, a letter, to be enabled to decipher the effaced inscription. So it is with the more experienced physician; he divines from a single symptom of a disease the whole disease. Of all diseases, scarlatina is most frequently masked or latent. Instances will explain this better than any description :

In 1829, one of my friends told me that scarlatina prevailed in a little village near Mennecy, in the department of Seine-et Oise, and principally in the communes of the chateau de Villeroy. Wishing to study this epidemic, I could do it more easily from the fact that as the chateau was perfectly isolated, the evolutions of the disease could be easily followed.

I saw individuals of the same family affected with sore throat, without eruption, and although they remained in the midst of those who were afterwards attacked with scarlatina, these persons escaped. Their sore throat was violent, accompanied with high fever, redness, and disquamation of the tongue. Others, who were attacked lightly, being slightly unwell for eight or ten days, suddenly became swollen, and passed blood. Albuminuria was not known at that period. These facts struck me and caused me to think that these persons having, some of them the eruption and the consecutive anasarca, others the anasarca or sore throat only, were differently attacked, but that all these symptoms were different manifestations of scarlet fever.

In 1845, at Meaux, an analogous fact came under my observation, in connection with my friend Dr. Blache, occurring in the same house. A young girl, fourteen years old, was taken with a violent scarlatina, characterized by croupal angina, the eruption,

and an intense fever. A few days afterwards, her sister was also taken sick with the same symptoms; almost at the same time a chambermaid fell sick; two or three days after, a man-servant, who staid in the room the whole day, was affected with a severe sore throat, with croupal exudations on the tonsils, redness and exfoliation of the tongue, high fever, but without cutaneous eruption. It was clear to us, as the physicians of the family, M. Saint Armand also thought that all these patients had scarlatina, and in fact the man-servant, although remaining in the midst of the epidemic locality, had taken the disease, only not in the same degree as the rest of the family; while the scarlatinous phase was complete in the others, in him the inscription was latent (*fruste*). There still remained a young boy, six years old. Suddenly, without having been sick a single instant, he became swollen. M. Blache and myself were called in consultation, and we recognized the anasarca of scarlatina presenting itself at the outset; it was considerable, and accompanied with haematuria. The father and mother, who were very attentive to the health of their son, declared that in the morning he had breakfasted and played as usual. This child had neither fever nor eruption, and the disease manifested itself in time, by the single symptom which we have indicated. Eight days afterwards he had a double pleurisy, and came near dying. Called again in consultation, M. Blache and I recognized this affection; four days after, we found one of the sides of the chest cured, while the other had taken on an enormous development. We performed paracentesis of the chest, and drew off one pound and a half of pus. During two to three months, Dr. St. Armand made iodine injections into the pleura; notwithstanding a pulmonary perforation, the child recovered, and is now in good health.

This is the only case of the kind I have seen. Graves cites several, a few of which I shall quote:

"Young F —— was taken home from school where scarlatina prevailed. He complained of sore throat upon swallowing, of headache, nausea. The next day the tonsils were swollen, and he experienced a greater difficulty in swallowing. His pulse was quick—skin hot, but no traces of eruption. These symptoms continued three days without increasing in severity, and then disappeared. Before he entirely recovered his two sisters and his father were attacked. The eruption appeared upon the skin in his two sisters, and ended in desquamation, while in his father there were only a few red points upon his skin, without ulterior desquamation."

"Master O —— also returned from school with scarlatina. During his sickness his two sisters and his brother were taken with the same disease. In all three it manifested itself under the form of small eruptions, and maculae, upon the skin. At the same time the man-servant and maid-servant suffered from violent angina, with high fever, which lasted several days. There was no eruption."

These facts are identical with those I have myself seen. In the following, which occurred in the family of a physician, you will observe that the disease developed itself by anasarca, as in the case just cited.

"The following case," says Graves, "was communicated to me by a very eminent practitioner of Dublin. A few years since scarlatina broke out in the family of this physician, and attacked all the children, with the exception of a young lady, who, although taking care of her sisters during their sickness, had no symptom of it. When they were convalescing, the family were sent into the country for the sake of the change of air, the sister who had not been sick accompanying them. There, to their great astonishment, she was suddenly taken with that peculiar anasarca which is observed in those who have had scarlatina. Her father, who took care of her during this sickness, was struck with this singular fact: he paid particular attention to it, and became convinced that it was a latent scarlatina."

"These cases, and those of which I have already spoken," continues Graves, "are very interesting in a pathological point of view; they tend to prove this fact, that, in many circumstances, diseases produced by contagion do not present the same series of symptoms which ordinarily characterize them."

These extracts from the Irish author prove that the same things occur in Dublin as in Paris. It is very certain that you will see these latent scarlatinas; you cannot, therefore, become too familiarly acquainted with them. Graves insists upon these facts as a means of demonstration, and he positively indicates that these are cases of scarlatina; for, says he, the disease being essentially contagious, it would be impossible that those who only had the sore throat or the anasarca should be alone exempt in the midst of their family sick with scarlatina, which had attacked all the rest.

The eruptive diseases, whether the eruption takes place on the skin or upon the internal viscera, as is the case in putrid or typhoid fever, which is an eruptive disease of the digestive tube; the eruptive diseases have a fatal course, that is to say, they have determined phenomena, against which we cannot cope with success. In the treatment of these diseases, the physician should not forget this grand fundamental fact: that whatever may be said, he cannot prevent the progress of a putrid fever, nor can he cut short a case of variola or rubeola. Doubtless, unskillful attention can retard or modify, in a certain manner, the appearance of the eruptions; but whatever means may be employed, art is powerless against the evolution of an exanthematous fever whatever it may be. We should watch for symptoms and complications as they arise, in order to combat them. In these diseases, more than any other, the physician should be *minister naturæ et interpres*; for in these diseases more than any other, continuing the citation, *quicquid meditetur et faciat, si naturæ non obtemperat naturæ non imperat*; his duty, when everything progresses regularly, should be essentially passive, *otiosus crisium spectator*, as Fizer said; if no severe symptom

arises, he has only to fold his arms ; in a few days the disease will have accomplished its evolution naturally.

When the eruptive fevers become in some particulars menacing, our intervention, let us avow it, is generally of little avail. In some circumstances, however, we can be useful. These fortunate circumstances in which art interferences efficaciously, are more frequently met with in scarlatina and rubeola than in variola and putrid fever.

I shall show you what the physician can do in the first of these diseases. Above all, it is well to recollect that scarlatina varies greatly in its form and severity ; that sometimes it is of an extraordinary mildness ; sometimes, on the contrary, its malignancy renders it a terrible disease, the equal of the plague and typhus. This should be taken into account, for success should not be attributed to the medication which may have been used, the honor of which belongs entirely to the benignity of the epidemic itself ; nor should failures be laid to the treatment which could not prevail against the essentially malignant nature of the disease.

Epidemics of scarlatina can be generally severe for a whole population ; they can also be severe for a single family only. The malignancy can be circumscribed, so to say, within a small compass ; but in these cases, it is malignant for almost all those it attacks within the circle to which it is confined. In this connection I will recall to your recollection the sad fact, published lately in the English journals, of scarlatina carrying off, in one week, six or seven children of a clergyman of York.

It seems that the poison with which those attacked with scarlatina are infected, has a particular activity, or that the constitution of each of the patients is disposed in a special manner for receiving it. Whether the malignancy depends upon the nature of the disease, upon its epidemic character, as Sydenham and others say, —whether it depends upon the particular constitution of the individuals, according to the opinion of Stoll, this grand fact always remains, namely : that when scarlatina breaks out in a family, with its terrible phenomena, destroying the first it attacks, it is well to mistrust and fear it, for it will probably take off other victims ; and also when its first severity has moderated—when it appears from the start benign, it is well to hope, for it will generally remain benign.

This should be said before entering upon the study of the treatment, in order to put you upon your guard against yourselves. I cannot repeat it too often, that if the disease is in itself severe, the best medication will most frequently fail ; if it is in itself benign, recovery will most usually result, and the most inappropriate medication may not be injurious.

There is a point upon which all epidemiologists agree ; it is, that the *antiphlogistic treatment*, bleeding, too energetic purgatives, and rigorous diet, are pernicious. There is not, perhaps, an author, —I speak of those who have followed, studied, and described many successive epidemics,—who has not established the danger of this treatment in severe scarlatina, and even when, in the progress of

this disease, acute inflammatory phenomena arise, such as phlegmons of the tonsils, of the lymphatic ganglions, of the cellular tissue, that bleeding and leeches do not generally succeed, probably because they are directed to symptoms of a septic disease,—of a disease of a bad character, *mali moris*,—one of those malignant diseases in which the antiphlogistic treatment is almost invariably injurious.

Still these epidemiographists, in giving the sad results of their experience,—in condemning the antiphlogistic means of which they have observed the bad results,—these epidemiographists teach you that, if the energetic purgatives are hurtful, the milder mercurials, the neutral salts, given in a proper proportion, are of real utility. They say that, under the influence of laxatives which produce two or three passages a day, the febrile movement will be most usually moderated. This accords with my own experience. If a saburrall state of the *primoæ viae* exists, signs of *caco chylie*, I see only benefit in opening the bowels by a purgative suited to the age and strength of the patient. I cannot partake of the fears of Sydenham, in relation to diarrhea, so long as it is kept within bounds, and depends upon this state of the digestive tube.

We have said that, in scarlatina, and particularly when at its height, patients often succumb to a nervous exaltation, at least to nervous disturbances arising either in the centres of organic life, characterized by an extraordinary elevation of the temperature, vomiting, obstinate diarrhea, or in the centres of animal life, manifested by delirium, coma vigil, subsultus tendinum, and convulsions. The vomitings and the constant diarrhea present at the beginning of scarlet fever, are, as I have said, bad symptoms, and it is difficult to treat them with success. Opiates and sedatives are administered in vain. Ice, effervescing drinks, warm baths, calomel in very small doses, sometimes moderate the symptoms, while bleeding only aggravates them.

For these nervous symptoms, but especially for those depending upon perturbations in the centres of animal life, the value of which has been proved by experience,—a treatment which the physician adopts, however, with great caution. I speak of the *cold effusions* extolled by Currie.

Currie was the first to recommend their use. He treated a large number of patients afflicted with the severe form of scarlatina, and had considerable success from the use of cold effusions. Emboldened by his fortunate trials, he insisted upon this mode of treatment, and established its application as a general rule in scarlatina accompanied with severe nervous symptoms, such as delirium, convulsion, diarrhea, excessive vomiting, and a high temperature of the skin.

How should this treatment be applied? The patient placed naked in an empty bath-tub, three or four pails of water, at a temperature of 20° centigrade (68° Fahrenheit) are thrown over his body. This effusion lasts from a quarter of a minute to a minute, at the longest. The patient is immediately after enveloped in blankets, placed in bed without being wiped off, and properly covered; reaction gen-

erally follows in fifteen to twenty minutes. The effusions are repeated once or twice in the twenty-four hours, according to the severity of the symptoms. They should be administered at that moment when the nervous phenomena assume such an intensity as to excite our fears of imminent danger; they are to be repeated until these symptoms cease, relieving the mind of the physician from further cause of alarm.

To suggest in private practice a treatment apparently so bold, one would have to have grown old in practice, to be beyond the necessity of being sustained by public opinion. He should be fortified by a deep sense of duty—by a consciousness of doing well, in order to strive successfully against the popular prejudice,—of all prejudices perhaps the most unfortunate,—which demands that, in eruptive fevers, patients should have warm drinks and be wrapped in more coverings than they are accustomed to in health. There is no prejudice, we say, which is more unfortunate than this; there is none which more frequently occasions the death of the patient. Yet the voice of Sydenham, which has spoken for two hundred years,—the authority of the most distinguished physicians who still object to it, object in vain.

You understand, then, the difficulties which the young physician will have to encounter who believes he should have recourse to these cold affusions. These difficulties are the greater because it is in the severe cases, where the scarlatina threatens to be fatal, that the indications of this treatment are found. In adopting this treatment, you know that the disease gives you one chance of recovery to two of death, and you can *forsee*, if you are not successful, what will be the opinion of the family afflicted with the loss they have sustained.

I have employed these affusions for a long time. I tried them in private practice before adopting them in hospital practice, for I never made use of anything there which I had not previously tried in my private practice. As to these cold affusions, I can assure you that I have never used them without gaining some beneficial effect from them. I do not pretend to say that all my patients were cured. Far from it. I have, like my *confrieres*, lost the greater proportion, but even these have been for a time relieved. The affusions, instead of being injurious, seemed to moderate the symptoms and retard the fatal termination. By acting in this way in private practice, my reputation ran great risks, and I have been often badly recompensed for doing what my profound conviction dictated; but I remained firm in my course which duty marked out for me, and I persist in it up to this hour, for a stronger reason than formerly; for now, my position being established, my responsibility does not influence me as much. I understand your fears—not that you doubt the advantages of the treatment which you dare not adopt, but because while consulting before all the interest of the sick entrusted to your care, you yet have to watch over your own reputation, which is so easily affected at the commencement of your career as practitioners. Still, when the voice of duty speaks to you, when your conscience tells you that this treatment you dare

not adopt because it is contrary to the prejudices of the world, is a useful treatment, it is still necessary to try it, it is right that you should do it. But then, instead of resisting this prejudice face to face, instead of taking the bull by the horns—if you will pardon me this vulgar expression—avoid the difficulty, by administering these useful cold affusions, leaving the patient, and especially the attendants, in the belief that the affusions are warm.

Scarlatina, as I have already said, especially in its malignant form, has, of all diseases, the highest elevation of the temperature of the body. In some cases, I have also told you, it is as high as 106° Fahrenheit, consequently about six degrees above the normal temperature. Now, do not make use of the affusions, but of simple lotions, and with water at seventy-seven degrees Fahrenheit, that is, 29° less than the temperature of the skin of the patient; relatively it is cold. Put the patient upon a cot bedstead and sponge the body with this water, first in front and then behind, and then replace him in his bed, wrapped in blankets, as I have already indicated. Although less efficacious than cold affusions, this kind of affusion has a positive effect, and following its application, you will perceive that the skin, which was before very dry and extremely hot, will become in half an hour cooler and moist. What is still more remarkable is the diminution in the frequency of the pulse. Instead of beating in the infant 160, 170, 180; in the adult 140, 150; it falls to 130, 135, 140, in the former; to 120, 115 in the latter; consequently 30, 35, 40 pulsations less. At the same time the cerebro-spinal phenomena diminish in intensity, the vomiting and excessive diarrhea, symptoms depending upon disturbances of ganglionary innervation, also diminish. Thanks to these lotions, then, you obtain, for a short time I grant, a remarkable sedation. I say for a short time, for in two or three hours the symptoms sometimes return, when the lotions, or affusions, should also be repeated two, three, or four times in the twenty-four hours, and sometimes five or six days in succession.

Quite recently I attended with my friend Doctor Baret, a young man thirteen years old, affected with very severe scarlatina. The nervous symptoms at the third day were so great that Dr. Baret suggested cold lotions. I also considered them indispensable. The parents, full of fears, submitted to them, however, with that resignation which become people of intelligence, who understand that in medical questions their incompetence is absolute. Each lotion was followed by so great benefit that four days later, when the patient was out of danger, they recognized and loudly proclaimed that he owed his recovery to the application of cold.

You will observe this fact, which will surprise the assistants and reconcile the family to the lotions, the affusions which they mistrusted; that, almost invariably, from the beginning of the affusion, the skin, which was pale, or of a faint red color, becomes quite red, and the eruption becomes more developed. These affusions, therefore, not only do not decrease the eruption, but bring it out, so that the parents themselves notice it, and as long as danger continues,

they are often the first to solicit its employment, unable to refuse to recognize the amelioration which this method of treatment has produced, particularly struck with the fact that the eruption reappeared more distinct. Yet, in verity, if the result of this amelioration is not favorable, if death takes place, they forget the encouragement they gave you, they accuse you of the misfortune, which can only be attributed to the character of the disease.

Some of you, gentlemen, may recall the following fact: On the 10th May, 1857, a stout young woman, twenty years old, entered the wards of Prof. Rostau, who had been sick two days with an exceedingly serious scarlet fever. My honorable colleague was so kind as to call me to see her, and to propose that I should receive her in my wards. She had violent delirium and excessive agitation; her pulse beat 144 times in a minute, and the heat of the skin was considerable; we recognized a severe scarlatinous angina. The agitation, the delirium, constituted serious and threatening phenomena. Mr. Rostau asked my advice in regard to the treatment; he inclined to bloodletting; I proposed cold affusions, and she was brought into my service.

As soon as she arrived I had her placed in an empty bath, and so great was her agitation that it took four persons to carry her there. I then dashed gently upon her body two vessels of water, holding about two quarts, of the temperature of the river, that is, about 15° centigrade. I also sprinkled the limbs and the face, then without wiping the patient, I caused her to be enveloped in a woolen blanket, and put in bed. The agitation was sensibly calmed, the pulse fell ten beats, the heat of the skin was less pungent.

I recommended my *chef de clinique*, Dr. Blondeau, to visit the patient towards evening, and to repeat the affusion, if, as I hoped, the first had produced any beneficial modification. The affusion was, in fact, repeated at night, in the same manner as in the morning, the patient resisting less, and shortly after the pulse was 120, (in the morning, you will recollect, it was 144,) the heat of the skin much less. From that time the delirium ceased; the night passed tranquilly, and the next morning, at the visit, the patient replied with perfect intelligence to the questions asked her. The scarlatina assumed its natural progress, free from all complications.

Although she had for eight days a little albuminuria, she left perfectly cured, perfectly well, the beginning of July, the desquamation not having been completely performed till towards the end of June—the 45th day of the disease.

I here call your attention to the two capital points I just now mentioned; in the first place to the diminution of the febrile heat, the decrease in the rapidity of the pulse, the cessation of the delirium and the agitation; in the second place, to the increase of the eruption.

As to the latter, the affusion did not only not drive in the eruption, (and I again dwell upon this fact,) but it rendered it more marked than before. The patient was, in fact, when she arrived,

at the end of the third day of the fever, and the eruption should then have been at its height, still it became more intense after the affusion.

As to the diminution in the frequency of the pulse, the decline in the heat of the skin, as to the delirium, the ataxic symptoms, which should have increased up to the sixth or seventh day of the disease, not only did not remain stationary, which was relatively an improvement, but they gradually passed completely off.

At the same time, May 23, 1857, a new occasion also presented itself in our wards, to apply the medication which we prescribed. But this time, the disease was so complicated that we could not hope to obtain the success which crowned our labors in the first instance.

The patient was a woman twenty-four to twenty-five years old, delivered of a healthy child six days before, and who, four days after that event, was taken sick with scarlatina. There were no symptoms resulting consecutive to the delivery : no peritonitis, no symptoms of phlebitis, yet the patient was in the puerperal state when the eruptive fever broke out with great violence. When she reached our wards she was in great agitation and in delirium : the skin was very hot, and covered over with quite a bright red eruption ; the tongue was dry and fuliginous, the oppression great, pulse 136. Notwithstanding the puerperal state, without taking into account the lochia which were regularly discharged, my *chef de clinique*, Dr. Blondeau, who saw the patient at night, caused her to be submitted to cold affusions, which practice I approved. Immediately after the affusion, during which she had an attack of syncope, this unfortunate woman was much relieved : the delirium ceased as by enchantment, and the violent pains she had experienced, principally in the region of the kidneys, rapidly declined ; she expressed great thankfulness for this sudden relief. The nervous symptoms returned, however, a few hours afterwards. The night was a bad one, and the next morning, at the visit, the delirium, the agitation, the *oppression*, were extreme ; the pulse, which the evening before had fallen, under the affusion, from 136 to 120, had regained its first frequency. The eruption was about as bright as before.

I administered a second affusion. Immediately the delirium ceased, the agitation diminished, the patient experienced relief similar to that of the night before, and the recollection of this relief induced her to call for the cold affusions during the lucid intervals in her delirium. Those of you, gentlemen, who were present at that visit perceived as well as ourselves the happy results. The pulse fell again from 136 to 122, but the oppression was still considerable, and could not be explained in any manner by the state of the thoracic organs, auscultation revealed nothing particular. This phenomenon gave us great anxiety as to the issue of the disease, which so seriously complicated the puerperal state.

I seize this occasion to tell you how dangerous is the association of scarlatina with the puerperal state. It often happens that women

die either from the excess of the nervous symptoms, without lesions appreciable at the autopsy, or from inflammations of the serous membranes of the pleura, pericardium, and from peritonitis, passing rapidly to suppuration.

In 1828, Dr. Ramon, Mr. Leblanc and myself, were commissioned by Mr. de Mortignac, then Minister of the Interior, to go and study the epidemics and epizootics which at that time prevailed in old Sologne, that part of France embraced between the Cher and the Loire, from Blois to Gien. While we saw a great many cases of membranous angina, we also saw some severe cases of scarlatina. The latter prevailed particularly at Cour-Cheverny, a commune situated four leagues to the south of Blois. It was especially destructive among parturient women, to so great an extent that those who were able left the country to be delivered in the city. The physician of the locality told us that he had lost nine cases. In the country epidemics of puerperal diseases are very rare, as you know. The parturient woman generally remains free from the epidemic influence, but thirty-six, forty-eight hours after their delivery, the scarlatinous eruptions appear, and in a few days the patients die. The puerperal state is a serious complication to the eruptive fever. It was so with our patient in No. 19. Puerperal fever prevailed in Paris, the hospital de la Maternité had recently been closed, and we had cases of this serious affection in our wards at Hotel Dieu; new born children died from erysipelas, of a bad character, manifestation of the puerperal fever in young subjects, which destroys them with or without appreciable lesions of the internal organs. Our patient then was placed under the most deplorable circumstances.

This oppression, independent of any material affection of the air passages, extremely serious symptom in a great number of septic diseases, in puerperal fever in particular, in typhoid fever, in cholera, indicates deep disturbances in innervation. This dyspnœa, which is not dependent upon any appreciable lesion of the lungs, the heart, its envelopes, or of the large vessels, was for us a prognostic sign of ominous import.

In fact the nervous symptoms were soon redeveloped in an exaggerated form, and the patient died during the day.

At the autopsy our attention was principally directed to the lungs, to the central organ of the circulation, to the encephalic apparatus. I was the more particular in the search for lesions in these organs, because, in the young girl who was the subject of our first observation, encephalo-meningitis was assigned as the cause for the nervous symptoms which were present.

The autopsy made with care, revealed nothing. The encephalon offered no trace of lesion, and in the lung we only found a little congestion, such as is produced in those who die from a violent cause. The heart, its envelopes, and the large vessels were perfectly healthy. These results did not surprise me, for I have often examined the bodies of individuals who have perished with analog-

gous symptoms, and I have never found any appreciable alterations of the encephalon ; that is, not to say, that there never exists any local organic disorder. These disorders are met in certain forms of nervous symptoms, but these forms are essentially different from those exhibited by the patient, whose organs we examined ; the latter left no trace of their existence.

We have had, then, to contend with a delirium which the ancients designated as *sine materia*, with cerebral disturbances, leaving no appreciable material lesion of the brain. We have generally a strange idea of delirium. To explain it, when it appears in the course of an acute disease, we instantly have recourse to cerebral hyperæmia, and our theory, which is tinctured with the old leaven of the physiological school, having for its basis the irritation of the organ whose function is disturbed. This is the way it was explained in 1820, 1824 and 1825. Now our views are changed. Then the functional disturbance was said to depend upon an active congestion which led to inflammation. The theory was very attractive from its simplicity. If a person was delirious, if he coughed or vomited bile, there was nothing easier than to say, he has cerebral, pulmonary or hepatic hyperæmia. But the examination of the organs after death frequently demonstrated the error; the past existence of this hyperæmia was in no wise revealed.

Is not anæmia, a state dimetrically opposed to hyperæmia, accompanied by analogous symptoms ? Do not animals, boiled to death in the slaughter houses, die in convulsions ? But what are these convulsions other than a kind of delirium of muscular action ? Why cannot anæmia just as well produce delirium of intellectual action ? A woman, after an abundant hemorrhage from the womb, is seized with nervous symptoms, great functional disturbances of the cerebro-spinal centres ; assuredly hyperæmia cannot be given as the cause of these symptoms. In this instance we have a positive demonstration that anæmia can produce convulsions, comatose phenomena, delirium. We are not right, then, in stating, as is too often attempted, that these symptoms depend upon a congested state of the nervous centres. Without doubt they sometimes are dependent upon it, for we have evident proof of it in meningitis ; but meningitis is far from being the essential condition of their production.

In septic diseases, in particular, these conditions are very different, for in these we have a poisoning. Whether under the influence of the toxic principle the blood is seriously changed, whether this fluid is only the medium of transportation of the poison to the nervous centres, whose action is to be disturbed by it, the same conditions arise in septic diseases as are observed in individuals to whom we give medicaments acting upon the nervous system, such as belladonna, hyoscyamus, mandragora, dalura stramonium, conium, poisons which produce delirium, which varies, however, with the substance employed ; the delirium of opium not resembling that produced by the solanæ, this differing again from the

delirium resulting from the ombelleferæ. These differences are so great that the physician who is versed in the effects of these different agents, will detect by the form even of the nervous symptoms, the convulsions or deliriums, that which has produced them. Septic virus, whether that of scarlatina, rougeola, variola, pustule maligne, or that which causes dothinenteritis or puerperal fever, also affect the nervous system, and why should we be astonished to see delirium produced by them? Do we need the interposition of hyperemia to explain this delirium, when it is conceded that it has nothing to do with poisoning from vegetable substances. The same with other functional disturbances of the nerves, they are perfectly independent in the latter as the former instances of a congestive state, and if its direct cause escapes our investigation we are none the less forced to admit an unknown action which we cannot explain.

Again, delirium and other nervous phenomena can be manifested independently of all other toxic or septic cause; a simple vellication in the acceptation of the latin word *vellicare* (to tickle) is sufficient to occasion it.

Examples have been given where persons have killed women by tickling the bottoms of their feet. These unfortunate women fell exhausted into a violent delirium, presenting most extraordinary nervous phenomena. This tickling can then alone produce these symptoms of delirium, an exaggeration of those occasioned by forced excitation of the nervous system, which we see in some individuals, in a physiological state; as, for example, in the act of copulation. This vellication, (to continue to use this word,) this vellication, this excitation beyond the nature of sensibility, takes place as well in the organs of organic life as in those of relation. Thus are explained certain very serious symptoms, such as convulsions, delirium, paralysis, loss of sight, caused by the presence of intestinal worms in young children, even when they occasion no well marked pain in the abdominal viscera.

In these cases, cerebral hyperemia has no part, and in other cases even when the brain is directly interested, the congestion has nothing to do towards the production of the nervous phenomena of which we now speak. In the insane, for instance, in those who for many years have had repeated attacks of delirium, if in some cases we find at the autopsy chronic inflammatory lesions of the brain, in the greater number we find no trace of hyperemia. Nor does this explain any the more those forms of delirium, those ephemeral disturbances of the intellectual faculties, to which men of the highest intelligence and the best organized brains, are subject.

Let us return to the subject of treatment, and the use of cold affusions. I do not, let it be well understood, employ them indifferently in all ordinary cases of this disease, as the extreme partisans of this medication are wont to do. I reserve them especially to combat the severe nervous, the alarming ataxic symptoms.

To meet these terrible symptoms of scarlatina, other internal remedies can be administered with advantage. And first, the

ammoniacals, the carbonate of ammonia, spirits of minderer, which is an acetate of ammonia, mixed with some empyreumatic products; these two medicaments in the dose of $\frac{1}{2}$ a drachm to 1 drachm—ammonia itself in the dose of 10 to 20 drops—can be very useful. I shall say as much of *musk*, of which 3, $4\frac{1}{2}$, 6 grains, and even 15 grains, is given in the course of twenty-four hours. These means should be used with prudence; they constitute an accessory treatment in those cases where the cold affusions are employed; when the latter, for some reason, are not employed, the former comprise the principal therapeutical means.

The *angina* of *scarlatina*, which is accompanied with croupy exudations, when these are not very abundant, is not very dangerous.

Those who have followed this clinic have observed that I have done nothing for those who had this affection, and especially in the case of a young lad, in No. 17 St. Agnes ward. In his case the false membranes, the pultaceous spots on the tonsils, completely and spontaneously disappeared after four or five days.

If in simple scarlatina the angina yields thus readily, in malignant scarlatina the condition is changed, the disease attacks the throat, and generally the physician cannot prevent it.

I have tried cauterizations with nitrate of silver, with chlorohydric acid; I have tried borax in collutories; I have given chlorate of potassa within and in gargle, and I must say that in malignant scarlatinous angina all these remedies have very often failed in my hands. However, of all these therapeutic agents, the most to be depended upon has been chlorohydric acid, which, applied twice a day, has seemed to be of some use. This caustic is to be used with great prudence and precaution. In children, during the struggle to overcome their resistance, you may burn the tongue, the teeth, the internal walls of the mouth, and thus increase the evil without cauterizing as it should be done. By holding the child properly, and opening his mouth by means of a spatula, you can sometimes obtain good results from these cauterizations, touching the diseased parts twice a day, for five or six days, with a camel's hair pencil saturated in the acid. Insufflations of alum and tannin, used alternately, are also very useful. As to that form of angina which is not observed during the hight of the disease, but comes on suddenly about the ninth or tenth day, with an abundant exudation from the nose, with deafness, or severe pain in the ears, fetid breath, frequent pulse, and great depression, as to that angina which is probably only a *diphtheritic complication* of scarlatina, it resists all our efforts. All kinds of treatment which I have tried have failed—nasal injection with styptics, with the solutions of sulphate of copper; of sulphate of zinc, nitrate of silver, with the decoction of rhatany, with tannin, the cauterizations of the throat—all have failed; patients almost invariably succumbing, whatever you do. In these cases you must rely upon generous treatment, upon sulphate of quinine, coffee, and especially upon a strengthening alimentation.

And now of the *anasarca* of *scarlatina* and the symptoms which complicate it. I have already stated that it follows less frequently the severe forms than the benign eruptions. Often it constitutes a complication of the greatest importance, in other cases this complication is not serious. When it is slight, I have also said that hygienic means, rest in bed, lukewarm drinks, a moderate diet, is all that is necessary. When, however, the urine contains blood, acid drinks, lemonade, the decoction of *uva ursi*, sweetened with the syrup of turpentine, small quantities of *digitalis*, mild laxatives, will meet these symptoms.

When the *anasarca* increases with great rapidity, it will be necessary to resort to other means to prevent the threatening symptoms. It is in such a case that it is important to recollect the two forms of this disease, as the treatment is different in either case. That which is accompanied by a real febrile reaction, characterized by hot skin, frequency of pulse, oppression, thirst, dryness of the tongue, requires an antiphlogistic treatment, and you can bleed once or twice with benefit to your patients, which will be shown by the diminution in these phenomena. Following the bleedings by the administration of small doses of calomel, which is an antiphlogistic par excellence, you will take from the *anasarca* its acute character, while the intestinal secretions, produced by the purgative action of the protochloride of mercury, will tend to diminish the oedema. To aid this, it is proper to administer some diuretic, the use of which, before the employment of the antiphlogistic, would not have produced the good effects, when given after, is to be expected from it.

If, on the contrary, you ascertain the existence of oedema, without fever, you should be cautious in taking blood, but should immediately give such purgatives as will produce an abundant flow of serosity from the mucous membrane of the intestines, in order to check the oedema, at the same time stimulating the urinary secretion by diuretics. If the relaxation, the loss of tone of the tissues is great, it will be well to add tonics, particularly *cinchona*, or to give large doses of iodide of potassium, which is highly recommended for such cases by Graves.

The first of these forms of *anasarca* is often preceded by and accompanied with pissing of blood, or at least as we have said, with the presence of certain constituent elements of this fluid in the urine. All pathologists agree in considering this passage of blood, or of its elements in the urine, to a renal hyperæmia, which is often inflammatory, as may be judged by the reaction which occurs. General depletion, which we have recommended for the acute form of *anasarca*, acts well in this congestion of the vascular apparatus of the kidney; but this can be checked quicker and more surely by means of a derivative over the lumbar region. All authors, and I am of this opinion, think that diuretics at this period are injurious in augmenting the renal hyperæmia, and consequently the passage of blood in the urine. It is often advantageous to administer interiorly some haemostatic substance, such as

sulphuric acid, either pure, or diluted with alcohol, (Eau de Rabel) in the dose, of half a drachm to one and a half drachms a day, in a draught sweetened with syrup of rhatany.

As anasarca is, of all the symptoms of scarlatina that which is produced, most frequently, by the impression of cold, it is important to take the necessary precautions to protect patients from its influence, especially during the periods of the disease, when, according to the statistics upon this subject, anasarca most usually arises, during the first and third weeks, and more particularly about the fourteenth and twenty-first day.

There is no analogy; on the contrary, curious differences, between variola, rougeola, and scarlatina, as regards the injurious effect of cold. Sydenham insisted that a patient with small-pox, even when in full eruption, should get up every day, and in fact, these patients, at whatever period of the disease they may be, do not seem to be disposed to take any intercurrent disease from exposure to cold. Those affected with rougeola do not seem to have the absolute indifference to the former, nor yet the exquisite susceptibility of those afflicted with scarlatina. The impression of cold passes harmlessly over some, whilst in others it exaggerates the bronchitis, inseparable companion of the eruption, which can extend to the bronchiæ ramifications, to the tissue of the lungs, by producing capillary bronchitis, that particular form of pneumonia, which are the most serious complications of rougeola. In certain cases some little anasarca is produced. In scarlatina the susceptibility to cold is very great, and the greatest caution is necessary to prevent patients from becoming chilled. I do not mean to say that it is necessary at any period of the disease to shut them up in an oppressive atmosphere, to over-load them with bed clothes, and excite them by warm drinks. A moderate temperature, no more covering than they are accustomed to in health, tepid acid drinks, are the best means to be used. But such patients should be kept in their rooms for a long time, to avoid the sudden transition of temperature, currents of fresh air, especially moist air, under the penalty of being exposed to the appearance of anasarca, the micturition of blood, effusions into the pleura, into the pericardium, or what is more serious, into the ventricles of the brain.

The anasarca which comes on rapidly and in a great degree, is ordinarily accompanied with convulsions, which sometimes destroy the patient with the first attack. Energetic purgatives are, in these cases, useful, by causing a part of the serum effused into the cellular tissue to be thrown out upon the surface of the intestine. It is also important to place the lower limbs of the patient hanging over the side of the bed, and the head raised by pillows. By this means imminent convulsions may be prevented. But in some cases these convulsions are present from the beginning, coming on without giving warning of their approach. The patient complains of a severe headache, difficulty in the sight, upon one side alone, or both together, sometimes ringing in the ears and deafness. In these cases,

scarifications of the inferior extremities may be of advantage. What is sometimes better, in attaining the same result, is the application of very large blisters upon the legs, and not upon the thighs. After seven or eight hours, phlyctenæ will be formed, and when they are opened serum will flow abundantly from them, relieving the patient, and enabling him to pass the crisis of his anasarca.

If the convulsion takes place, during the attack give *musk* in connection with small doses of *belladonna*. For a child, eight or ten years old, musk, in the dose of 3, 4½, or 6 grains; belladonna in that of one-tenth of a grain for a single dose. At the same time you should make use of a means I have employed for more than twenty years, and from which I, as well as other physicians, have experienced great service; I speak of the *compression of the carotids*. This compression requires to be carefully made, and in a certain manner. When the epileptiform convulsion predominates upon one side, the compression should be exercised upon the opposite side. If, then, the convulsion be predominant upon the right side, it is the left carotid which should be compressed, and reciprocally if the convulsion be predominant upon the left side the right carotid should be compressed. If the convulsion be equilateral the compression should be alternately produced upon the two carotids,—I speak, be it well understood, of the primitive carotids—and even simultaneously upon both, if it is possible to do so without interfering too much with the respiration of the child.

This compression is easier to perform than you would suppose. Place yourself so that the right hand can compress the left carotid, and the left hand the right carotid; push aside the sterno-clieido-mastoid muscle, while with the back of the unguial phalanx you push aside the trachea, and you will feel the beatings of the carotids. Seizing it, then, from within, with the ends of the fingers, carry it backwards a little and press it against the vertebral column. You will instantly perceive that it is compressed, by the absence of pulsation in the corresponding temporal artery, by the paleness which sometimes suddenly succeeds to the previous redness of the child's face, and again by the fact that in some fortunate cases the compression is no sooner established than the eclamptic convulsion ceases. Continue this compression upon one of the arteries for fifteen to twenty minutes, then compress the other. If you have an aid who can assist you, his assistance will be useful to you in this operation; the mother, whose solicitude renders her so intelligent, can replace you. By this means, having patience, the convulsions accompanying the anasarca of scarlatina can be arrested, in a certain number of cases, in a few hours.

In some cases the anasarca and the albuminuria, which are ordinarily cured in fifteen days, three weeks, or a month, can become the commencement of Bright's disease. The acute symptoms disappear, the albuminuria persists; if it persists a month or six weeks after scarlatina, beware of this symptom: it indicates the commencement of Bright's disease; the kidney is infiltrated with

fibro-plastic elements, and a few months later the patient succumbs to this new affection.

Finally, there are a few more serious symptoms which are developed in this last period of scarlatina about the same time as ana-sarca. They are the *serious effusions of the pleura and pericardium*. For these the repeated applications of fly-blister, and if the hydro-thorax or the hydro-pericarditis is very great, puncture may be useful. In large pleural effusions, thoracentesis, sometimes becomes necessary after a very few days. But often, as I have already observed, with the first puncture, even when the effusion has not existed more than ten, fifteen, or twenty days, you will find a lactescent serum, sometimes puss, already formed. Then you have empyema, a formidable complication, which you can frequently cure in young persons by puncture, and repeated iodine injections, but which you will rarely cure in adults, notwithstanding these means.

Bibliographical Notices and Reviews.

A Treatise on Human Physiology designed for the use of Students and Practitioners of Medicine. By JOHN C. DALTON, Jr., M.D., Professor of Physiology and Microscopic Anatomy in the College of Physicians and Surgeons, New York; member of the New York Academy of Medicine; of the New York Pathological Society; of the American Academy of Arts and Sciences, Boston, Massachusetts; and of the Biological department of the Academy of Natural Sciences, Philadelphia. Third Edition, revised and enlarged, with two hundred and seventy-three illustrations. Philadelphia: Blanchard & Lea, pp. 706. 1864.

The first edition of this work was issued Jan. 1st, 1859; the second Feb. 1861, and now the THIRD, Jan. 1864. This is a commentary upon its value.

The volume was first offered to the medical profession of the United States as a TEXT-BOOK for Students, and as a means of communicating, in a condensed form, such new facts and ideas in Physiology as have marked the progress of the science within a few years. It has constituted no part of the design of the author to give a detailed HISTORY of physiological science, but only such

prominent and essential points in its development as will enable the reader fully to comprehend its actual condition at the present time.

The illustrations of this work have not been transferred from the text-books of other authors. The author himself has figured very creditably in the way of getting up illustrations. Of the two hundred and fifty-four illustrations in the *second* edition, only eleven were borrowed from other writers. The present (*third*) edition contains also three new illustrations. The quality of the illustrations is very good, and will assist materially in the work of unfolding the nature of the tissues.

The scope of the work differs very much from that of other authors on the subject of Physiology. The history and details of physiology are given at length by most modern authors. These the author has left out, and we think well of his taste. For students, they only have the effect of diluting the text and rendering the study of the science irksome. The history of physiology and its current progress are subjects for the teacher rather than the novice. What interests the student are the facts. What is matter of knowledge in the science is the proper pabulum for the beginner. With this his mental stomach should be alone concerned. The popularity of the work and its rapid sale are due, in a great measure, to the circumstance that it is rather an exposition of well established principles and facts, than a summary of opinions and speculations. By what we have said, however, we do not design to disparage works of wider scope. They have their place, and it is an indispensable place too in a library. The scholar, the amateur must have them. They give breadth, and depth, and polish.

Physiology has been very much complicated by the introduction into its pages of many meaningless terms, and we may also say many knotty impracticable and unprofitable subjects. The verbiage of a science is a very important matter to student and teacher. Words should be univocal, expressing the idea, and nothing more, nothing less. A word, meaning one thing in one paragraph and another thing in another paragraph, is very admirably adapted to the production of confusion. And yet how often do we find such to be the case with writers of reputation? The common use of the term *law* is an instance in point, and the same may be said of the term *principle, cause, etc.*

A large space is often devoted to the "*vital principle*," to "*Physiological Chemistry*." We cannot ignore the use of such terms in writing books or in didactic efforts. But we may caution ourselves against the predominance they are apt to obtain. Living matter, an organism, is endowed with life, with a vital principle, yet if we invoke such a circumstance in all our explanations, there is simply an end to progress, for we know no more now about the "*vital principle*" than did Adam. Nor is the human body a chemical laboratory. Processes go on, it is true, not, perhaps, independently of chemical laws, but they are carried on according to laws that are peculiar. Some fifteen chemical elements are found in the tissues and fluids of the body. These are united in one instance in such a way as to make muscular fibre; in another instance in such a way as to make blood. Muscular fibre and blood, therefore, are often spoken of as chemical compounds. They are compounds truly, but are they chemical compounds? What chemist has ever made either muscular fibre or blood? What chemist has ever compounded the elements so as to make bile, saliva, or even urine? The process of respiration looks very much like combustion, and it has been, and is now, the fashion of eminent men to so speak of it. Oxygen unites with hydrogen and carbon in the lungs giving rise to the compounds, water and carbonic acid, just what takes place outside of the body in the process of combustion. But respiration is singularly efficient in its influences on various movements of the organism. Without it the heart stops and the circulation in the capillaries ceases. When it is even slightly interrupted the circumstance is announced by the occurrence of the most unpleasant and insupportable sensations. The consumptive invalid measures, with great accuracy, the purity of the atmosphere, and perhaps, of all others, enjoys, in the greatest degree, the function of respiration. He feels in a pure atmosphere an invigorating influence that others are unconscious of. Now, do such facts favor the idea simply of a combustion process? It may be convenient to speak of respiration as a combustion, but it is doubtful, if our knowledge is at all favorably affected by such an explanation. The union of oxygen and carbon outside of the body is attended by an elevation of temperature. This circumstance is seized upon to explain animal heat as the result of respiration. It is supposed the oxygen of the atmosphere unites with the hydrogen and carbon of the blood either in the pulmonary circulation or in the ca-

pillars of the systemic circulation. Perhaps this is the correct explanation. But does it account for the circumstance that we have constantly a temperature of the body of 98°, and also of the fact that the life of the individual is staked on the maintenance of this temperature under all circumstances. The quantity of oxygen taken into the system must vary under different circumstances. The number of respirations in a given time, the purity of the atmosphere, the different states of the skin, etc. But the temperature of the blood remains the same.

Perhaps in the present state of science we may just as well as not leave off speculations about causes, and confine ourselves to appearances, or phenomena. Physiology really may be said to be a science of phenomena, a science of appearances. We study these phenomena, among other ways, by the movements that take place in all organized bodies, animal and vegetable; and also by vivisections and the use of drugs.

Between the lower orders of animals and vegetables the line of demarkation has not yet been very perfectly drawn. Both begin with the cell structure, both have vessels, both have a circulating fluid, and both have motion, and are nourished very much alike. The vital phenomena of vegetables are distinguished from the vital phenomena of animals by vegetables absorbing carbonic acid and exhaling oxygen; animals absorbing oxygen and exhaling carbonic acid. The former nourish themselves by the absorption of *unorganized* liquids and gases; the latter require for their support *organized* animal or vegetable substances, as meat, fruits, milk. Among vegetables, then, there are analogies that may often be invoked in the investigation of animal phenomena. From inferior animals much light is derived. A complex process is often more easily comprehended by seeing its analogue in inferior animals, the protozoa for example. Here we have all the great functions of nutrition, respiration, circulation, innervation and intellection performed simply by the cell-wall. The paraphernalia of stomach, lungs, vessels, nerves and brain is dispensed with. As we rise in the scale of animal being from the protozoon, it is interesting and instructive too to see how piece after piece of an apparatus is added until we reach the development found in superior animals. From such sources human physiology has received many very valuable hints.

The intimate relation and sympathy between the movements of

organs is so great, that the method of investigation by vivisections becomes necessarily amenable to some grave objections. The mutilation of one organ impairs or subverts the action of other organs. We hardly know when the cerebellum has been removed from an animal, whether the phenomena following be due to the absence of the part removed or to the injury inflicted. Again, when the liver is the subject of experiment, it becomes a question as to how much should be attributed to the injury sustained in the operation for directing a flow of bile to the outside of the body. In regard to the amount of bile secreted in the twenty-four hours, there is, as a consequence, widely different statements, no doubt due to the circumstances connected with the experiments employed for determining the quantity.

The study of Physiology is prosecuted under great disadvantages without a knowledge of Anatomy. Anatomy teaches the structure of the body, its organs, and the tissues of which the organs are composed. It is the province of physiology to describe the movements of these organs and tissues. The one describes the body in a state of rest; the other the body in a state of motion. The movements of a watch are very imperfectly understood without some knowledge of the construction of the instrument. So the various and complicated movements of the human body can be best comprehended by those who make themselves familiar with its structure.

A practice very common among writers is to generalize as much as possible—to arrange all of the phenomena, facts, and events of a science under a few general heads. It might be said, for example, that everything in the science of physiology admits of classification under the terms *supply* and *waste*, *nutrition* and *excretion*. But while such generalizations abridge labor, they also abridge knowledge. It is true that every movement involves directly or indirectly one or the other of the processes of waste or supply; but it is equally true that the movement of each organ constitutes a distinct subject of investigation. In other words, every organ has an idiosyncracy—a series of actions that are peculiar. Organs sometimes act vicariously—the skin often performs the office of the kidneys, and *vice versa*. This, however, is a provision for temporary emergencies. It can last but a short time without giving rise to disease. Again, it is very convenient to say that the liver concerns itself mostly in separating from the blood articles abounding

in carbon, and the kidneys articles abounding in nitrogen. It might, therefore, be said that the liver has the office of eliminating carbon—the kidneys that of eliminating nitrogen. Still, it is a question whether such generalizations, careful as they are, benefit the student in a degree that compensates for the indisposition to labor, which they inspire.

In contemplating the subject of nutrition, the physiologist is impressed at once with the idea that it resembles nothing else in nature. From beginning to end it is peculiar. A substance, submitted to the process of nutrition, commences undergoing changes, which continue from the time it touches the lips until it becomes fixed in the system as a part and parcel of the organism. These changes it is the province of physiology to elucidate. We see the substance, as a bit of bread or meat, when taken into the mouth it is dead organized matter, which, if exposed to heat, air and moisture, would putrefy at once. But when mixed with saliva epithelial scales, the mucus of the mouth and of esophagus, a series of changes begin to make their appearance. These are succeeded by another series, produced by the gastric juice, the gastric mucus, the glands of the duodenum, the bile, the pancreatic juice, and the glands of the small and large intestines; subjected to impressions from all of these sources, the substance finds itself at last analyzed, a portion being retained in the system, endowed with vitality, the rest excreted as useless. The process, taken altogether, results in vitalizing dead matter. It is powerful too. Putrefying muscle or pus, capable of producing deadly disease if applied to an abraded surface, or even the virus of small-pox, is not only rendered harmless under the influence of the process of digestion, but the little nourishment contained in either of them is strained out and appropriated. It is, then, very convenient to sum up all of the mutations to which we have referred, under the term "*digestion*." The physiologist, however, can only reach respectable information after having observed the influence of each agent concerned in the great work. What, and how much, is due to the mouth? How much to the esophagus and stomach? How much to the liver, the pancreas, the small and large bowels?

Scarcely any one can think on physiology without regarding it as having a very close relation to pathology, and consequently to the practice of medicine. It is the province of physiology to explain the condition of the body in a state of health, perfect health

Hence health is often spoken of as the physiological state, and disease as a departure from this state. Physiology being the standard of comparison, it may be said that disease is simply altered physiology, or perverted physiology. This view of the subject makes physiology indispensable to an enlightened exercise of the healing art. And that such is the case admits of little doubt. It would seem very reasonable to expect that any one attempting the cure of a diseased liver, should be fully acquainted with the functions of the organ—with its physiological movements. Authors who have written of late with most ability on practical medicine, fully appreciate the physiological stand-point of contemplating diseases, and conform as much as possible to its requirements.

Works on physiology generally stop after considering the physiology of the individual. Beyond this, however, there are facts and phenomena that are brought out only in the social state, and apply as a consequence to the race. The embodiment of these facts might with propriety be denominated "*race physiology*," though it is the practice to use the term Ethnology, from "*ethnos*,"—a *race, herd, nation*. The physiology of "*animal life*" would seem to present man as voluntary in his movements, being possessed of free will to a considerable extent. But the physiology of "*organic life*" would seem to prove him to be a mere automaton. In the organic department all of the more important operations are entirely removed from under the influence of the will. This is true of the heart, digestive apparatus, and eliminative organs. The individual has no power whatever over their movements. Started into action in obedience to the general laws of development, they continue to perform their functions through life, amenable only to the sympathetic system of nerves. Very much now like the movements of organs are the movements of *races*. Individuals have some appearance of free will;—a race none. A race seems entirely automatic, drifting through time in obedience to its instincts, or those principles of its physical nature that differentiate it from other races, and give to its actions the appearance of idiosyncracy.

A Treatise on Pharmacy, designed as a Text-Book for the Student, and as a Guide for the Physician and Pharmaceutist, containing the Officinal, and many unofficinal formulas, and numerous examples of Extemporaneous Prescriptions. By EDWARD PARISH, Graduate in Pharmacy; Member of the Philadelphia College of Pharmacy; of the Academy of Natural Sciences, of Philadelphia; and of the American Pharmaceutical Association; Principal of the School of Practical Pharmacy, Philadelphia. Third Edition, thoroughly revised and improved, with important additions, with two hundred and thirty-eight illustrations. Philadelphia: Blanchard & Lea, pp. 849. 1864. (For sale at our Bookstores.)

Since medicine has been cultivated as a liberal profession, the necessity of accurate standards for the regulation of the strength and purity of medicines has been felt and acknowledged. Pharmacopœias are indispensable to the practitioner, as well as to the professional pharmaceutist. For a long time we depended entirely on Great Britain and the continent of Europe for such works; the confusion which grew out of the different directions of these works led, during the early part of the present century, to the adoption of measures for the getting up of a work suitable to the wants of the American profession. Dr. Lyman Spaulding, of the State Medical Society of New York, in the year 1818, proposed a plan of getting up a work. A convention of Medieal delegates, as a consequence, met in Washington City, June 1, 1820, over which Dr. Samuel L. Mitchell, of New York, presided, and Dr. Thomas L. Hueston, of Philadelphia, acted as Secretary. At this meeting essays were read, the wants of the profession discussed, and the first edition of the Pharmacopœia of the United States was adopted, and its publication entrusted to a committee, who issued it before the close of the same year. In order to perfect the work as much as possible, another convention was provided for, which assembled in 1830, with Dr. Lewis Condict, of New Jersey, as its President. Decennial revisions were again made in 1840, and in 1850, and in 1860. The Pharmacopœial Convention of 1860, contained delegates from Medical and Pharmaceutical Societies of seven States and the District of Columbia, and from the Army and Navy of the United States. The volume which was the result of this meeting was not completed until the past summer of 1863.

Thus we have given the history of the United States Pharmacopœia. The United States Dispensatory of Drs. Wood & Bache,

issued in 1831, is a work of great utility, valuable as an encyclopedia of *materia medica*, therapeutics and pharmacy. The appearance of this work did very much to increase the interests of the profession in works of the kind.

The work before us, in original design, and in its subsequent revisions, has had for its object the supplying physicians and pharmaceutists with a practical treatise on the science and art of pharmacy. In the edition before us, most of the working formulas of the *Pharmacopœia*, of 1860, are introduced, together with a large number of unofficial and extemporaneous formulas and prescriptions.

The merits of the work have been acknowledged by the profession. It is a Pharmacy proper, and, as a consequence, differs from all works of the kind, issued from the American press. Its claims to attention are very high. Professional pharmaceutists cannot do without it; no book takes its place. The same, we repeat, may be said with reference to the country practitioner. He has much to do in the preparation of the medicines he uses. In Galenical Pharmacy the country practitioner, with a work like this one, may serve himself better than he is often served by druggists. Take for example the making of tinctures. No one can do this so well as the physician himself. He, indeed, ought never to think of purchasing tinctures. It is true he may buy a good article, but it is only once in a while that a good article can be purchased. The directions are very full on the preservation and preparation of plants for use in medicine. Every physician is surrounded with plants of medical properties, and often medical plants of a very valuable character. But owing to imperfect knowledge of the proper mode of preparation, they are neglected for old specimens, nearly always inert, taken from the shelves of the druggist.

A small place has been assigned in the work to "*prescriptions*" and the art of prescribing medicines. It is said that the celebrated *Pharmacologia* of Dr. Paris, of London, published in 1812, contains the fullest dissertation in our language on the science and art of prescribing. Many of the views taught in that day are not applicable at present, the whole subject being simplified in accordance with modern improvements in pharmacy.

The art of prescribing medicines has a very intimate, indeed we may say, an inseparable relation to the preparing of medicines and to therapeutics. But one aspect of the subject, however, it is

our intention to notice—the *language used in prescriptions*. In Great Britain and in the north of Europe prescriptions are written in Latin; in France in the vernacular language. The subject has given rise to diversity of opinion in this country. The relative adaptation of Latin and English has been freely discussed, and as a consequence some in this country write prescriptions in English, others, perhaps much the greater number, write them in Latin.

The chief desideratum being to secure accuracy, the question is simply one relating to the capability of these languages in that respect. It matters not which language is used, the *officinal* names of all medicines are to be preferred to their common vulgar synonyms, which are always changing. This being the case, the plan of writing prescriptions in Latin is, perhaps, preferable. Nomenclature, in almost every department of physics, it is the fashion now to derive from the Latin or Greek. The names of plants are taken largely from the Latin, and hence the medical substances belonging to this kingdom have specific names, understood everywhere alike.

It is urged as an objection that very few who write prescriptions in Latin write them correctly, especially when the terminations are attempted. And again, that a very large number mix up English and Latin in such a way as make their prescriptions very obscure and ridiculous. It should be recollected that such objections apply to the ignorance of the physician and not to the plan of prescribing. "There are several reasons for preferring the Latin to the Vernacular language in prescriptions. If not spoken, it is written and understood throughout the civilized world, and that cannot be said of any other language. An invalid traveling through many parts of Europe might die before a prescription written in English could be interpreted. Moreover, Latin professional terms are concise and definite. Furthermore, the Latin names for drugs and chemicals are the same, or nearly so, all over Europe; whereas the vernacular names differ for each nation—nay, sometimes for each province. Lastly, it is sometimes *necessary or advisable to conceal from a patient the precise nature of the remedies which are employed.*"

It has been suggested, and very properly too, that in writing Latin prescriptions the student should endeavor to imitate the style of Celsus, "our greatest and almost only authority in every thing relating to medical Latinity."

In connection with the language used in prescriptions, a word or two may be offered on the simplicity of prescriptions for the benefit of the student. There is scarcely any case of disease but what seems to present more or less in the way of complications. This circumstance very often has an undue, or rather an unwarranted effect upon the mind of the practitioner. He is apt at once to rush to corresponding complication in prescription. He is apt to think that multiplicity of lesions should be met by multiplicity of medicines. A very neat little sophism reposes just here. The truth is, in therapeutics, a single article of the *materia medica* is often able to chase two lesions or put ten thousand of them to flight. How often do we see a formidable array of symptoms disappear under a single dose of morphine, or after the operation of a cathartic, or an emetic. It is often necessary, of course, to compound several articles in a prescription. The real indications require it, and the results show the wisdom of the measure. Still there is not the least doubt that the compounding of a number of articles in a prescription is often done when a single article would have suited just as well, perhaps better. The rule really should be simplicity, and it should never be suspended except *in decided cases*. Such a plan leads to accuracy in regard to our knowledge of the effects of medicines—a very important matter.

The author has some very good remarks on the relative latitude that obtains in the use of drugs—some physicians using a great number of the articles of the *Pharmacopœias*, and others but very few. The remark has often been made, that the best physicians use the fewest medicines, and the inference is hence made that good physicians are a little sceptical in regard to the available properties of many articles of the *materia medica*. It may be that there is some truth in the suggestion. The explanation, however, may be more successfully sought, not, perhaps, in their want of confidence in medicines generally, but in their superior knowledge of the powers of those they are in the habit of using. A good physician will take tartar emetic and accomplish more with it than would be done by another one with the whole *materia medica*. The tendency among physicians of experience, then, to the use of a small number of articles does not arise from not believing in the medical properties of drugs generally, but from superior knowledge of the powers of drugs.

While experience and a high order of mind have prerogatives, it should always be recollected that they are prerogatives, and that the great mass of the profession have to crawl before they can walk. In other words, that it is the duty of the student to post himself thoroughly on every article of the *materia medica*. He should try them all. He, to say the least, should do himself the justice of obtaining personal knowledge of the effects of every substance. Some one has said, "Try all things, and hold fast to that which is good;"—a very fine maxim for the beginner in therapeutics.

The *contents* of the volume before us is divided into FIVE PARTS:

Part I.—*Preliminary*. On the furniture and implements necessary to the dispensary office, or shop implements.

Part II.—*Galenical Pharmacy*. The pharmacy of organic substances, as distinguished from

Part III.—Inorganic pharmaceutical chemistry.

Part IV.—Pharmacy in its relations to organic chemistry.

Part V.—Extemporaneous pharmacy.

Following these parts, is an Appendix, "On the management of a sick chamber; Preparations used as articles of diet for the sick and convalescent; Fifty-dollar outfit; One hundred-dollar outfit; Twenty-five-dollar outfit; Recipes for some of the more important popular medicines."

We arise from the perusal of this work with a very good opinion of it. It is really a meritorious production, and one that will certainly win its way to general favor. It will serve both the professional pharmacist and the country practitioner; the latter will find its teachings lead to accuracy, neatness and efficiency, and thus correct the slovenly, imperfect methods that, to the disgrace of the profession, so often obtain. Dr. Parrish deserves the thanks of the profession for his labors in getting up the work.

Editorial and Miscellaneous.

Ohio State Medical Society.—This body adjourned to meet the present year on the 21st of June, at the White Sulphur Springs.

To Correspondents.—We have several communications on hand which will appear in our next number

The late military movements in our State has created quite a demand for physicians, with which to supply the State troops now going forward to take part in the impending battles. A very large number of young physicians are finding employment. Many, too, of the older members of the profession are uniting with the service.

Glanders.—A monograph on this subject has been laid on our table. To medical men the disease is one of rare interest, for up to the present time it is without a remedy, very contagious, and easily communicated to man, and many human lives have been lost by ignorance of this fact. The seat of the disease is in the Schneiderian membrane and the salivary glands, and is characterized by a discharge of matter from the nostrils, and enlargement and ulceration of the glands.

The *New York Medical Independent and Pharmaceutical Reporter* has been forwarded to us. The work hails from New York. The first number has just been issued. From what we see of it, we are at a loss to comprehend the character of the publication exactly; but are rather inclined to think that it is primarily designed to advertise certain preparations of drugs. The "Introductory" abounds in some very suspicious remarks about the necessity of "reforms," "radical changes," "improvements," etc. We say *suspicious remarks*, because such are generally the stock in trade of the charlatans. New-comers of the true stripe are apt to

content themselves at first with a low seat in the synagogue, disposed to see what is to be seen, before carping about the necessity of "improvements."

Annual Report of the Superintendent of the State House, by WM. M. AWL, Superintendent, Columbus, Ohio, 1864.—A pamphlet of some thirty pages has been prepared by the author on the history of our State House. The author deserves the thanks of the public for collecting and placing in a durable form the many facts and incidents connected with the rearing of this massive structure, designed as a temple of justice for the inhabitants of forty thousand square miles in the Mississippi Valley. We learn the structure is situated on a lot of ten acres. It presents four fronts; is 184 feet wide by 304 feet long. The height of the building to the top of the blocking course, is 61 feet; to pinnacle of cupola, 158 feet. The corner-stone was laid July 4th, 1839.

Vaccination.—We hear much complaint about the use of impure matter. In one neighborhood a large number of cases of syphilis has been the result of the matter used.

American Medical Association.—The attention of the reader is called to the meeting of this body, which, as will be noticed by the advertisement, will be held in New York.

Sanitary Reporter.—The twenty-fourth number of this publication, for May, has just been received. It contains valuable information and is doing a good service in preserving facts for future use.

American Medical Association.—The Fifteenth Annual Meeting of the "American Medical Association," will be held in the city of New York, commencing Tuesday, June 7th, 1864, at 10 o'clock, A. M.

GUIDO FURMAN, M. D., Secretary.

The following communication from Professor Cassels, with the request to publish, was received too late for insertion in our last number. The *animus* of the "reply" renders any further discussion of the subject wholly unnecessary.

Prof. CASSELS' reply to Prof. WORMLEY'S remarks on the report of his evidence in the case of the State of Ohio v. Edward Robbins.

I was somewhat surprised to see in the January number of the "Ohio Medical and Surgical Journal" an article prepared by Hon. W.M. LAWRENCE and T.G. WORMLEY, M.D., on the trial of Robbins for the murder of Nancy Holly, in Marion county, in March, 1858, in which my evidence, as a chemical witness, purports to be fully reported, with Prof. WORMLEY's remarks on it. These strictures of the Professor refer to the action of chloroform on strychnine, based on the supposition that the strychnine was in the state of an acetate when the chloroform was applied; and that the strychnine was not sufficiently freed from organic matters previous to its addition.

Prof. WORMLEY drew the conclusions he did without a knowledge of all the facts; presuming that the whole process which I adopted was fully detailed in a report which he avers was written at the time of the trial.

Had I supposed that my evidence was to find its way into anything more than a country newspaper, I should have preferred writing it myself. * * * But I have never been in the habit of making an ostentatious display of my scientific knowledge, either in courts or elsewhere, supposing that all that was necessary in such cases was to satisfy a jury that I had, or had not, detected poisonous agents.

Had Prof. WORMLEY extended to me that courtesy, which as a gentleman of science, and the editor of a public journal, he was in duty bound, previous to the publication of his article, I think I could have satisfied him that the report he saw could not have been a detailed description of my process in finding the strychnine, for it certainly does not require a very profound chemist, nor a very elaborate series of experiments to determine the solubility of the salts of strychnine in chloroform.

While testifying in the Robbins' case, I asked the Prosecuting Attorney if he desired a minute and detailed statement of the whole of my manipulations in preparing the stomach and its con-

tents for a course of testing? Judge LAWRENCE, or some one, replied by requesting a simple outline of the process, so that the jury could comprehend it; hence I gave a very meagre epitome of my process.

I find in my laboratory notes taken at the time that I subjected first the contents of the stomach to the process of purifying, advised in Otto's work on Poisons, which work I had received a few weeks previous, and testing by his test. This I did in the presence of Dr. Sweeney, of Marion. And afterwards, having divided the stomach itself into two portions, I followed the same course with both; only in the one I acidified with acetic acid, neutralized with caustic potash, and took up the strychnine with chloroform; while the other was acidified with oxalic acid, neutralized with carbonate of soda, and the alkaloid remained with sulphuric ether; both being then tested with sulphur acid and bichromate of ot ash.

These are the facts, but because I did not so state all the minutiae, with a pedantic flourish in court, triumphantly exhibiting the products of each step in the manipulation, Prof. WORMLEY took it for granted that what I gave as an outline of the process, as requested by the court, embraced the whole; hence his conclusions, as stated in the article, must be regarded by every unbiased man, unwarrantable.

New Disease.

The addition of a new disease to the already enormous catalogue of the ills to which flesh is heir, can hardly prove a source of congratulation, the more especially if it happened to be one of the most loathsome which has yet been made known or conceived. But in calling attention to the newly recognized "trichina disease," we have at least the satisfaction of knowing that we have here not a malady absolutely new, but only possessing features of novelty in so far as by the recognition of its singular and painful cause, we have made a great step towards ensuring its prevention; for this is one of the diseases which is to be averted rather than cured.

The trichina disease is a febrile disorder depending upon the lodgment and migrations in the human body of multitudes of a

microscopic worm (*Trichina spiralis*,) which find their way into the economy through the eating of pork infested with the parasite, and pass in crowds from the intestines to the muscles, where they become encapsuled.

The history of this worm, its migration, and the disease it causes, is a marvelous chapter, yet very imperfectly known, in vital philosophy. The disease is one of which the reality and the serious importance cannot be contested. Müller, a German physician, sends us in an original paper, which we publish in another column, a most careful observation of the symptoms of the disease, watched by him in a recent *epidemic* of the trichina fever in Hettstaedt, a small town in Prussia containing about 6000 inhabitants, which commenced in the middle of October last, in consequence of the infected persons having eaten a kind of sausage (not thoroughly cooked,) made of pork, in which were trichinæ. Some account of this epidemic has already appeared in several of the public journals, and it has necessarily created a profound impression: for in this small population eighteen to twenty persons had died from the disease, and more than eighty persons were at one period afflicted with the same malady, produced by the same cause.

The evidence of the nature of the disease is of the most positive and irresistible kind. In all the cases examined, the worm is found by microscopic examination in immense numbers in the muscles inspected, whether the examination be made by *harpooning* small portions of muscle during life—when a piece of living muscle the size of a hemp-seed has been found to contain no less than seven trichinæ—or by the *post mortem* examination of the muscles, which discovers everywhere numbers of these pernicious worms. The symptoms of the disease are well marked. In this most recent outbreak at Hettstaedt, they are thus described by our contributor, Dr. Müller:—

“ According to the information I obtained on the spot, the disease begins a few days after eating the meat in which there were trichinæ, with loss of appetite, and almost without exception with diarrhoea and fever; œdema of the eyelids; also pain, or at least painful sensation of weakness in the limbs; œdema of the joints; difficulty in moving the tongue; profuse clammy respiration; and those patients who do not become convalescent, die either unconscious with symptoms of typhus fever, or in a few cases, remain conscious to the end, complaining of inability to breathe freely.

"The only important symptom of typhus absent in the disease is the enlargement of the spleen, and it is very probable that some of the so-called epidemics of typhus fever in former days were caused by the propagation of trichinæ in the human body."

Similar symptoms were observed and described in an outbreak at Planen, in Saxony, where from twenty-five to thirty persons were affected; and at Madgeburg, where the disease is said to have prevailed during five summers, but at first not to have been recognized. A symptom on which other observers than Dr. Müller have laid much stress, but to which he does not allude, is excessive and singular muscular pain, generally through the body, but especially in the calves of the legs, which become hard and swollen. This was so noticeable at Madgeburg that the disease was called Scleroma adulorum. In a very remarkable case recorded by Dr. Friedreich, of Heidelberg, where there were these excessive muscular pains, and the calves of the legs are described as being "hard and elastic, with a feel almost of india-rubber," the disease was diagnosed during life. The patient, who was treated with picronitrate of potash, slowly recovered.

"The muscles (calves of the legs) were harpooned several times. The first time was about twenty or twenty-one days after the commencement of the attack; although a piece of muscle only about the size of a hemp-seed was taken out, no less than seven trichinæ were found. Ten days later other harpooning showed no trichinæ; but seven days after, a living, but not encapsulated, trichinæ was found; and four days after this an encapsulated worm was discovered. Seventeen days later, when the patient was quite well, the search for the trichinæ was fruitless. The muscular fibres were not inflamed, but were fattily degenerating rapidly. A very extraordinary discovery was that a trichinæ was found in the puss of one of the boils, so that Friedreich asserts that the furunculoid disease was caused also by a wandering of the worm beyond its usual site. The patient had been engaged in killing pigs the week before his illness, and had often held his bloody knife in his mouth, and had also eaten raw some of the bits intended for sausages."

We might be well satisfied to take comfort from the observation that these terrible records are from German sources, and that the sausage-eating propensities of the German may perhaps explain

how they suffer from a parasitic disease non-existent here. There are, however, some important facts bearing upon that view of the case which cannot be safely disregarded. In the first place, the *Trichina spiralis* was originally discovered in the human body in 1835, by a distinguished English observer, (Professor Owen) in a specimen of human muscle submitted to him by Mr. Paget, then a very young man. Hilton and Wormald had previously noticed a speckled condition of the muscles in some subjects, and it was this that Owen made out in 1835 to be due to "white specks in the muscles, and seem to be cysts of an elliptical figure, with the extremities in a general attenuated, elongated, or more opaque than the body (or intermediate part) of the cyst, which is in general sufficiently transparent to show that it contains a minute coiled up worm." Professor Owen gives, in the paper communicated to the Zoological Society of London, from which this extract is taken, a very complete description of this worm, to which, however, Henle, Virchow, Leuckart, Luschka, and Kuchenmeister, have added further details. They have especially traced its life history, and their researches show that "the fully developed trichina is a distinct filiform worm, occupying the alimentary canal, and giving birth to young trichinæ, which pierce the walls of the intestines and on reaching the muscles become capsulated."

The evidence that the *Trichina spiralis* is bred in man by his feeding on pork infested with this parasite is of the most positive and direct character. Professor Gamgee, in his recent article on Diseased Pork and Microscopic Parasites in man, in the *Popular Science Review*, gives a useful picture of the symptoms of the disease in animals, to which all may refer with advantage; for it is by recognizing the disease with care in animals which are materials for human food, that danger to man will be best avoided. He dwells with force and propriety on the necessity of scrutinizing the habits of the domestic pig. He points out that parasitic maladies in the pig specially abound in Ireland, where swine live most amongst human beings; and draws inferences of practical importance to feeders and to all who eat pork.

It is a remarkable fact that we get from eating pork the two other most destructive parasites which prey upon the human body—the tapeworm and the hydatid. Leuchart has shown, and it is now acknowledged, that trichinæ are not killed by salting or freezing pork, nor by its becoming putrid. Whether smoking kills

them is not settled, but the imperfect smoking to which a great part of the preparations of pork are subjected, certainly has not sufficed to destroy them. The observations of Wormald, Hilton, Paget, Bellingham, and others, show that this disease—not looked for, because almost unknown to us during life as a disease—certainly exists among us. It resembles so much “continued fever” in its simple characters that it may well be passed over by those who are not on the watch; but the recent observations of epidemics to which we have alluded, and the paper which we publish to-day from the pen of Dr. Müller, will put the profession on the alert; and it is to be earnestly hoped that, if it exist anywhere, it may now be immediately discovered, and the most rigid measures enforced of sanitary prevention.—*London Lancet.*

Visit to the Hospitals on the Field of Chancellorsville, Va., read before the Medical Society, 2d Div. 3d Corps. By C. K. IRWIN, M. D., Surgeon-in-Chief Excelsior Brigade.

On Sunday, May 10, 1863, having received orders from the Medical Director, I proceeded, with others, to the “United States Ford,” where we were permitted by the enemy to cross the Rappahannock, in order to render assistance to our wounded who fell into their hands during the battle. Eight wagon-loads of stores, consisting of blankets, dressings, medicines, beef stock, coffee, condensed milk, stimulants, farina, etc., were ferried over in pontoon boats, re-loaded in wagons furnished by the enemy, and the form of parole complied with. I was then placed in charge by Surgeon Asch, U. S. A., and permitted to proceed towards Wilderness Church, some seven miles distant from the ford, and in the vicinity of where the 11th corps were so seriously repulsed only a week or ten days previously. Late at night we reached our destination, some two miles to the west of the Chancellorsville House. To this point many hundreds of wounded men had been carried, and it proved to be one of the largest and most central of the many hospitals established, and was under the charge of Surgeon Hewett, 119th N. Y. Vol., 11th corps. Early next morning, having distributed coffee, milk, beef stock, stimulants, dressings, etc., for the want of which much misery had been endured, and being relieved by the medical director of the 11th corps of the charge of these stores, I proceeded to inquire re-

garding the hospitals containing the men of our division. Wilderness Church was occupied principally by the enemy's wounded. Our own had been carried to the various plantations, east and west of this point, over an area of at least two miles. On visiting the hospitals to the west of the church, it was ascertained that most of the wounded of our division on this section of the field were at the hospital first mentioned. After rendering such assistance as lay in my power to those in the others, I returned to the one in charge of Surgeon Hewett. This large house, situated to the south of the plank road, near Wilderness Church, was surrounded with small buildings, such as are usually arrayed on southern plantations, comprising negro huts, stables, sheds, pigsties, hen-roosts, etc. The rooms, halls, and varanda of the main building were filled with wounded, lying on the floors without straw, the larger proportion without blankets and in the clothing in which they had fallen, now saturated with blood, urine, and, in many cases, more offensive matter. The wounds were putrefied, and some contained maggots. The wounds were generally much more severe than are usually met with in field hospitals, for those who had slight wounds had run from the field. Every place of shelter from the storms, whether hut, hen-house, pigsty, or shed, which could be obtained, was filled to the utmost capacity ; and yet hundreds lay on the ground in the open air, with only pieces of shelter-tents or blankets raised over them. Some ten or twelve surgeons and assistant surgeons of the 11th corps had been captured during the battle, and though distributed over a space of four miles or more, with several thousands of wounded, did probably all in their power for the relief of the sufferers, receiving little or no aid from the surgeons of the enemy, who were busy attending to their own wounded. The rebel surgeons having a poor supply of surgical materials, appropriated nearly all the dressings, chloroform, instruments, hospital knapsacks, etc., which our surgeons had saved. The horses having been confiscated, all our medical officers were dismounted, except the director of the 11th corps. One surgeon lost \$400, which he had placed in his holsters for safety during the battle, thinking, if he was killed, the horse might run to our lines, be recognized, and the money saved for his family. The enemy got both horse and money. The rebel surgeons had, in some instances, assisted our own in operations, and then coolly appropriated the surgical instruments to their own use, as con-

traband of war, with the observation that the owner could apply to the Medical Director of Gen. Lee's army for redress. The only food furnished was flour and old bacon, excepting a quantity of hard or pilot bread, which was sent the day previous to our arrival. No tea, coffee, fresh meat, milk, or stimulus, in fact, nothing which is considered by us as requisite for a weak, wounded man. No bandages or dressings, but few hospital attendants or stewards, and these principally improvised from the men with slight wounds, or others who knew but little or nothing of the principles of nursing the wounded. Through inefficiency, there was but little order or systematic management, such as we usually have at the hospitals on the field.

Assistant-Surgeon Asch, U. S. A., Surgeon Hewett, one or two others and myself formed an operating staff, and in turn made a number of amputations on those who were found in a state which warranted the undertaking. A number of patients were brought to the table who, on careful examination, were found so low, and gangrene had progressed so far, that the most we could do was to return them, with no other prospect than speedy relief by death. Gangrene, in its various stages, and secondary hemorrhage, were prevalent to an unusual extent. Throughout our campaigns I have not witnessed so much gangrene as was here presented. On many patients the time for operating had passed. A majority of the cases requiring amputation had been deferred by the surgeons on account of the deficiency of almost everything necessary for success, in the hope, from day to day, that proper supplies would arrive either from Richmond or from our army. These surgeons, up to the time of our arrival, were placed in a most trying and disagreeable position. From day to day they were obliged to make shift for bandages by bits of old canvas or strips of clothing, such as they could pick up. Articles of hospital furniture were not to be had; even canteens and cups were deficient to such an extent that helpless men would sometimes call in vain for water to drink. Basins and sponges were scarcely indulged in, as they could not be obtained; and, with all the rest, the surgeons themselves were worn out and weak through their exertions, anxieties, and poor fare.

On examining several cases of limbs affected with gangrene, *always* of the moist character, it was observed that the injuries or wounds did not apparently afford mechanical obstruction in any way which would account for this result. Gangrene of this character is generally dependent on an obstruction to the returning cir-

culation, but in the cases referred to we must look for some other cause. That which seems most plausible to me at this time is *anæmia*. These men were poorly fed; some ten or twelve days had passed, during which life had been sustained at the expense of their own tissues, owing to the character of the food supplied. The appetite of a man with irritative or inflammatory fever could not be stimulated by presenting him a slice of fat bacon or unleavened bread; raw flour mixed in water was the only bearable substance, yet there was not sufficient of this for a proper supply of nutrition. As the warmth of animal life depends upon a sufficient supply of nutriment, it always follows that, when this supply is long deficient, the circulation becomes languid, and in the limb already inflamed from the injury, there is not the vital activity necessary for the reparative process. The first stage of this gangrene may therefore be properly termed anæmic. Next in importance to gangrene is secondary hemorrhage, which, in military surgery, I believe to be due to the same cause as the former, viz: insufficient nutrition. In the majority of cases under my observation the patients were anæmic. In several, suffering from inflammatory fever, weak, irritable, anxious, and restless, with hurried pulse and frequent respiration, bleeding to the extent of one to four ounces would prove fatal. Such cases have led me to believe that secondary hemorrhage often is rather a concomitant than the proximate cause of death. A case of resection of the shoulder-joint, with which some of you were conversant, was placed in the Potomac Creek Hospital, and under the immediate charge of a surgeon now out of the service. Secondary hemorrhage to a small extent had made its appearance; compresses in abundance were applied; and, on inquiry by a friend who was interested in the case, it was found that the poor fellow was, and had been for some time, on low diet, and was complaining bitterly of being almost starved. He was ordered milk, eggs, and beef stock, with punch and porter additional, and plain water dressing applied. He recovered without a bad symptom, and has a very good arm.

These remarks are not by any means intended to show that real secondary hemorrhage, of sufficient gravity to immediately destroy life, does not sometimes occur, but rather to show that such a result is the exception in military surgery, and that secondary hemorrhage is far more liable to follow anæmia than sthenia. It follows that, to avoid the former, we should early furnish nutriment to the

wounded as freely as they can bear, and of such quality as will support the system sufficiently, at least that the vital powers of the blood may not become weakened or impoverished.—*Amer. Med. Times.*

Cheap Food in Paris.—The Philanthropic Society of Paris has published its report for 1862. From the ten cheap food kitchens established in different parts of the capital, it distributed 290,016 portions of food, the produce of which was 11,709 francs, and the expenses 22,522 francs. In the six dispensaries, 1,775 patients received medical assistance, whilst 1,659 gratuitous consultations were given. Out of that number of sick, 81 died, being a smaller proportion than takes place in the hospitals. The expenses of those dispensaries for 1862, amounted to 41,985 francs, including medicines and bath, or an average of about 24 francs per patient. The budget of the Society for 1862 is stated as follows:—The balance in hand was 35,508 francs, and the receipts 66,665 francs, making a total of 102,173 francs. The general expenses amounted to 77,856 francs, showing a surplus of receipts of 24,317 francs. As you are no doubt aware, five francs equal a dollar.—*Med. and Surg. Reporter.*

Professional Dignity in France.—Our readers have not forgotten how certain parties have of late been summarily dealt with by the Medical Council and the College of Surgeons for unworthy conduct. A measure of the same kind has lately been adopted by the Academy of Medicine of Paris respecting a medical man named Priou, practicing at Nantes. This individual was a correspondent of the Academy, and had lately, at the Medical Congress of Rouen, bills posted all over the town with advertisements of the most reprehensible kind. The members of the Congress protested very energetically, and the Academy has at last taken up the matter. It has been decided that Priou, for this forgetfulness of professional dignity, should be erased from the list of correspondents.

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Original Communications.

Surgeon E. O. F. Roler's Report to Surgeon-Gen. R. N. Barr.

HEADQUARTERS 15TH A. C., }
SCOTSBORO, ALA., December 30, 1863. }

SIR: I have the honor to submit the following report in relation to the management and final disposition of the wounded of the 15th Army Corps, at Chattanooga, Tenn., of whom I was ordered to take charge immediately after the battle of Missionary Ridge, on the 24th and 25th of November, 1863.

The hospital organizations consisted of the 2d Division Field Hospital, in charge of Surgeon E. M. Joslin, 6th Missouri Volunteers; 3d Division Field Hospital, in charge of Surgeon Dudley Rogers, 59th Indiana Volunteers, and 4th Division Field Hospital in charge of Surgeon W. W. Bridge, 46th Ohio Volunteers. These hospitals were located $3\frac{1}{2}$ miles above Chattanooga, contiguous to the river, where they had been hastily established during the engagement of their respective commands with the enemy, near the eastern extremity of Missionary Ridge.

The 1st Division having operated along the slope of Lookout Mountain on the right, in conjunction with the 11th and 12th corps, and subsequently at Ringgold, where it sustained the heaviest loss, had its wounded transferred from the temporary field

depots, in common with those of other corps, to the General Field Hospital in Chattanooga, or to buildings taken for hospital purposes after the tents had been too much crowded for further admission of patients.

Assistant Surgeon D. S. Huntington, U. S. A., of the Department Director's Office, having arrived the day after the battle, at once rendered prompt assistance in supplying many of the immediate wants, and to whose continuous aid we were largely indebted for many of the needful supplies and comforts for the wounded. With the view of giving prompt attention to every demand for their proper care, an arrangement was made by which Assistant Surgeon Huntington assumed the management of the wounded of the 1st Division, many of whom in consequence of the sudden influx to the hospitals, were but indifferently cared for and without surgical attendance, while the division hospitals were assigned to my own especial supervision. With a good deal of trouble and labor, the wounded in town were collected together and provided with subsistence and surgical care until the organization of the General Field Hospital had become fully systematized and its capacity suited for further admission.

The most of these wounded, however, were shortly afterward transferred by boat to Bridgeport, under the superintendence of the Surgeon-in-Chief of the Division, by order of the Brig. General commanding.

A few cases, numbering 25 or 30 men, were left in the general field hospitals, where they yet remain under treatment.

No reports have been received from the Surgeon-in-Chief of the Division relative to the final disposition of the men, and I am unable to make any official report, my information being derived only from incidental sources.

The wounded of the 2d, 3d and 4th Divisions were treated in hospitals and wall tents, supplied from the regiments of the corps, with the exception of ten or twelve cases of the 4th Division, mostly officers, who were provided with beds in adjoining buildings. Many of the tents used were in bad condition, were

old and worn, without flies, and otherwise damaged during transportation from Vicksburg with the army. Neither cots or mattresses could be obtained for the men, and only a partial supply of blankets could be furnished for immediate use, by the Medical Purveyor of the Army of the Cumberland. The timely arrival, however, of Surgeon Bailey, from Nashville, with special supplies for the corps, gave us an ample supply of the latter, which were freely distributed to the patients until other means could be instituted for their comfort. The surgeons in charge were directed to procure details from the camps, and with lumber taken from vacant buildings, wherever found, construct bunks or elevated platforms upon which the men could be placed on hay and blankets, and thus be removed from dampness and from unhealthy proximity with the ground. Some delay was caused from difficulty in obtaining the necessary materials, and even the few implements required for their construction were not obtained without considerable trouble and some loss of time. The work was accomplished, however, with as little delay as could be expected. All these unfavorable circumstances of situation are to be taken into account in making up the deficiencies of care and comfort of hundreds of wounded men, suddenly placed in charge of surgeons after a great battle. With many, at a distance from the field of military operations, and unacquainted with the exigencies resulting from the movement of armies, such faults and deficiencies may seem inexcusable and deserving of censure. But it is to be remembered that the 15th Army Corps had traveled by river and railroad, and marched a distance of 800 miles to reach their destined field of battle, and had gone into action without opportunity being given for meeting consequent results and emergencies.

Wherever brick could be obtained they were used in the constructions of chimneys and flues, and where this could not be done the tents were heated by fires in front, or kettles filled with coals and placed in the center.

Subsistence for the men was procured at first from the Commissaries of Divisions, and subsequently from the Commissary of

Hospitals in Chattanooga. Owing to the deficiency of supply in the subsistence department, the rations were neither abundant nor of the quality desired, but with judicious use and economy, sufficed to meet the demands of the patients. Hard bread in one-half or three-fourths rations had to be taken the greater portion of the time instead of flour, although excellent brick ovens had been built, with the view of furnishing good soft bread to all the hospitals. Abundant supplies of fresh beef were obtained by foraging parties set out for that purpose. At no time during the existence of the hospitals was there any cause of complaint from hunger, or for want of some nutritious article of diet.

The hospitals were continued until the 20th of the present month, twenty-five days from the date of their organization. The roads to Chattanooga having become almost impassable, in consequence of the heavy rains, and the increasing difficulty of getting subsistence for the men and forage for the teams, rendered their further continuance in that locality impracticable. The alternative was presented of either transferring the hospitals to Chattanooga or Bridgeport, or making such disposition of the wounded as would enable us to break them up altogether and forward the tents and hospital property to the several regiments. With the advice and under the direction of Medical Director Perrin, of the Army of the Cumberland, arrangements were made for the transfer of all wounded who were not able to receive furloughs, to the General Field Hospitals, in Chatanooga, to be accompanied by a detail of as many medical officers as might be needed. Instructions to this effect were accordingly issued to the surgeons in charge of the hospitals, with additional orders for the transfer of the remainder of the wounded and the few sick, and all tents and hospital property to the hospital landing, where they would be provided for until transportation could be furnished by boat to Bridgeport.

Ambulances were promptly furnished by Surgeon Perrin, and the wounded were all removed on the 21st and 22d, together with all tents and other property of the three Divisions. The latter,

with the sick and the wounded designated for furlough, were brought by boats to Bridgeport on the 23d and 24th, and where all patients were sent to the camp hospital; the sick to remain; and the wounded, most of whom had received their furloughs, to await transportation by railroad to their homes in the North. A few were supplied with descriptive rolls, and will probably be retained in the hospitals at Nashville until furloughs are granted by the military authorities at that place, on application of the surgeon in charge.

The total number of wounded treated in the three Division hospitals were 733, who were distributed as follows:

Second Division Hospital	74
Third " " 	248
Fourth " " 	411

These numbers include admissions for wounds and injuries of every character received during action, whether trivial in extent, or terminating fatally immediately after being brought from the field. A few cases of sick from the camps were admitted in each hospital, but are not included in the above figures.

The wounded were disposed of as follows:

Returned to Regiment	162
Furloughed	356
Died	80
Transferred to General Field Hospital, Chattanooga,	135
<hr/>	
Total	733

It will be noticed in the examination of the above figures that a large proportion was returned to their respective regiments. This was especially the case with the third division, the troops of which were in camp, at the time, in Bridgeport, thirty miles below. Many of these men were not able to report for duty at the time of their discharge from the hospital, but being generally slight flesh wounds of the upper extremities, or minor amputations, it was deemed advisable to relieve the somewhat crowded condition of the tents, by sending them to their regiments, where all needful care could be given, and where furloughs could be readily obtained in cases of protracted disability.

Lists of the wounded remaining in Chattanooga are herein enclosed. They are without descriptive rolls, with the exception of the wounded of the Second Division. I would respectfully recommend that the Surgeon-in-Chief of the Third and Fourth Divisions be instructed to secure them for the men thus transferred, and forward to the surgeon in charge, general field hospital, Chattanooga.

The general results of the cases treated in these hospitals, although under somewhat unfavorable conditions, may be regarded as quite favorable, up to the 25th day after the battle. The wounded were unusually exempt from adynamic diseases of every character. Not a single case of hospital gangrene came under my observation. Sloughing occurred in two cases of amputation of lower extremities: one of the thigh and one of amputation below the knee, but were attributable entirely to faulty formation of flaps. The condition of the patients, and the subsequent results, were conclusive proofs, in my opinion, that it was not dependent on the putrifactive agencies concerned in the production of that disease. In each case spontaneous arrest of sloughing occurred, followed by healthy granulations without the adoption of any specific treatment. In case of mortification or local gangrene of the leg, requiring secondary amputation of the thigh, it was ascertained that in addition to injury of the joint there had been partial destruction of the continuity of the popliteal nerve, the vein severed, and the artery diseased and filled with coagula.

Two cases of traumatic erysipelas were reported. One of the hand, evidently caused by tight bandaging in attempting to control secondary hemorrhage from the deep palmar arch, and which readily yielded to topical applications after the bleeding vessel had been secured by ligature. The other occurred in a soldier, whose constitutional condition was somewhat chacectic, suffering from a gunshot wound of the knee joint.

The skin had an erysipeloid appearance, with less definite

margins of extension than commonly exist in that disease; extensive diffusion of ichorous pus was found to exist in the subjacent cellular tissues, mostly in the form of sinuses, and purulent infiltration, with diseased action in and about the joint. May not the integumentary complication have been derived from extension of the morbid processes immediately beneath, resulting from a somewhat diffuse burrowing of purulent products from the seat of injury?

The subsequent history of the patient, and an absence of the tendency to spread rapidly to healthy tissues, led me to doubt its identity with that form of erysipelas which originates from specific contagion or blood poison.

The number of deaths from pyema could not be ascertained. Several fatal cases came under my observation, in which there had evidently been extensive inflammation and purulent infiltration of the lungs, and yet so masked by the absence of symptomatic phenomena, occupying the sthenic grades of pneumonia, that the real seat of trouble had not attracted especial attention. The cases of amputation terminating fatally, and reported in tabular form, annexed, progressed favorably in every respect for eight or ten days after the operation. Healthy granulations appeared in the wounds, and the irritative fevers were not excessive. The pyemic condition was manifested by increased frequency and feebleness of pulse, rigors, biliary vomitings, dry tongue, and in the local stages exhaustive sweats, and sallow condition of the skin.

The results of gunshot wounds of the knee-joint, as exhibited in the tabular report of the cases occurring in these hospitals, are not very encouraging for future attempts to save the limb. In each of the cases reported as favorable on the 25th day, suppuration had occurred about the joint, and one had required free incisions for the escape of purulent matter. The surgeon reporting them, whose judgment is entitled to high consideration, bases his opinion on the fact that the constitutional condition of the patient was good, and

that there had been inflammatory action only to a very limited extent.

The general results, however, of the cases brought to my notice after the late battle, are adverse to any attempt to save the limb in all wounds involving the joint.

Exsections were performed in all the hospitals in cases of fracture of the bones of the arm and forearm, and in a few wounds of the leg. The results in general were in the highest degree satisfactory, and confirmatory of a principle already well established in conservative surgery.

In several instances my attention has been directed by operators to their need of proper surgical instruments for resections and exsections. Those mostly needed are chain-saws, knife-shaped, or Larrey's straight saw, strong bone-forceps, and heavy forceps for holding extremity of the bones whilst being sawn.

If practicable, it would be desirable to have the Surgeon-in-Chief of each Division furnished with an exsection case complete, for the use of the operators in the Division hospitals, after an engagement with the enemy.

I have the honor to be, very respectfully,

Your obedient servant,

E. O. F. ROLER,

Surgeon 55th Illinois Volunteers.

Acting Medical Inspector 15th A. C.

To Col. R. N. BARR,
Surg.-Gen. State of Ohio. }

Table of Amputations, with results to 25th day, Field Hospital, 2d, 3d, and 4th Divisions, 15th A. C. Battle Mission Ridge, Nov. 24th and 25th, 1863.

INJURIES.									
Leg									
Thigh									
Arm and Forearm									
Totals									
Total number of Amputations.									
Primary Amputations.									
Secondary Amputations.									
Deaths from Primary Amputations.									
Deaths from Secondary Amputations.									
Deaths from Primary Amputations.									
Deaths from Secondary Amputations.									
No. favorable for recovery without loss of leg.									

Table of Knee-Joint Injuries, with results to 25th day.

KNEE JOINT.	Total number of cases.		Amputated Primarily.		Amputated Secondary.		Treated without Amputation.			
	16	7	7	2	2	7	7	0	0	0
Totals										
Cases of Secondary Hemorrhage of all kinds										16

Report by J. T. Woods, Surg. 99th Ohio Volunteers.

HEADQUARTERS 99th O. V. I.,
CLEVELAND, Tenn., March 21st, 1864.

Prof. John Dawson, Editor Ohio State Med. Journal:

SIR,—While on duty at General Hospital No. 1, Chattanooga, a number of interesting cases came under my observation, and of which I kept notes; which notes, together with some commonplace remarks of my own, constituted a report to A. J. Phelps, Surg. U. S. V., and Med. Dir. of my corps. Before forwarding the paper I had a man to copy the *remarks* for my own satisfaction and future use. After they were copied, it occurred that *perhaps*—and I say perhaps, implying all the word can mean—you might

think them worth publication. I know there is nothing in them especially novel, but they have the merit of origination amid the stern duties and arduous labors of a battle.

Analysis of 55 cases of gun-shot injuries of the lungs, occurring at the battle of Chichamagua, affords results which I have tabulated for convenience of reference, designating with some degree of accuracy the locality of the wound, by imagining the lung divided into "thirds."

	Upper Third.	Middle Third.	Lower Third.	Lived.	Died.
Right Lung	6	.....	.....	2	4
	.....	5	.....	5	.....
	.....	.....	3	3	.....
Left Lung	12	.....	.....	9	3
	.....	9	.....	5	4
Both Lungs .....	.....	.....	7	4	3
Part of Lobe unknown—	.....	.....	.....	.....	2
Right, 5 ; Left, 6 .....	.....	.....	.....	1	10
	55				55

The injuries in the above cases were inflicted by Minnie balls, on the 19th and 20th of September, and as most of them were received in hospital from the rebel lines, after the lapse of eight to ten days, the early symptoms could only be ascertained by inquiry of the patients. Through this means I arrived at the general facts. The shock of injury to the physical system was only moderate, and reaction occurred promptly, but the force of the mental shock was more intense, always impressing the patient with the idea that he was killed ; that hemorrhage from the parietes was believed by the patient to have been often profuse, but haemoptysis, neither universal, marked or persistent, often having as strongly all these characteristics where the parietes only had been injured, or even where, without wound, a severe shock or jar only had been communicated. Respiration, through the thoracic opening, exhibiting the mucus characteristic, in cases where the ball could not have

failed to perforate the lung tissue, was not a common symptom, but occurred with most certainty when the perforation was in the upper part, and this occurrence was accompanied by much increased difficulty of respiration—a symptom that was astonishingly slight in those cases in which the above mentioned mechanical difficulty occurred, or pneumonia supervened. The most reliable general principles of diagnosis, to my judgment, is the purely mechanical one, and is based on the facts that the lung always fills the thoracic cavity, and that a Minnie ball is not likely to be deflected by the thoracic wall; hence, a straight line from point of entrance to point of exit decides the tissues injured, confirmed beyond doubt if by exploration the thoracic wall is found to be opened.

I have been astonished at the non-occurrence of pleuritis, the wounds being ragged, injuring twice both thoracic and pulmonary pleura, with spiculae of ribs, sometimes thrown inwards to irritate the parts and aid in exciting this wall, but in these cases the symptoms of pleuritis were both seldom and mild. The great danger is pneumonia, the treatment of which is not only delicate and difficult, but likely to prove unfortunate. No occasion was found for Guthrie's heroic phlebotomy, or for active purgatives. No indication for antimony, or the impairing the blood's plasticity, presented itself.

The only plausible hope for successful treatment lies in the *early* application of remedies, and in this matter lies an error fraught with fatality. The patients are mingled with others in crowds, the air is often impure, and this with depressed and circumscribed respiratory power, adds fuel to the difficulty; the examinations made not sufficiently frequent and minute to detect the earliest manifestations of the disease while within the control of medication. Anodynes, sufficient to allay the intense suffering, is dictated both by philosophy and humanity, and upon the detection of pneumonia in its early stages. The administration of *tinct. veratrum viride*, sufficient to produce its sedative effect, and thus arrest, by crush-

ing out the disease at once, has afforded most satisfactory results. The impression is made suddenly, at the time selected by the surgeons, and while it throws a barrier in the way of the inflammatory process, it leaves no traces of a destructive process of a permanent constitutional character. Great attention is required to the diet, which should at first be light, and made more nourishing as diseased action taxes more severely the constitutional energies.

FOOT AND ANKLE INJURIES.

The early history of these cases was exceedingly flattering, and afforded ample reason to warrant an effort to save the limb in injuries of this class ; but at a later date the incapability of nature's power of reparation became apparent.

In November, the transference to Northern hospitals placed them all beyond my observation, except cases No. ——, and of which notes date to December 10th. These cases, neither the most favorable, nor most unfavorable, of those represented, may be taken as a type of the whole, and the unwarrantableness of conservatism (?) in these cases is most apparent, every indication presented by them warranting the conclusion that after much of suffering and great exhaustion, their choice is still between death and loss of the foot.

In cases of severe gunshot injury of the tarsus, the result can hardly be less decided. The case of "Chew" presented favorable prospects, but without the greatest care and skill the foot will be distorted and at best retained with a long cicatrix that must ever interfere with the wearing of his boot, and this gained by an exposure much greater than from the amputation of Chofort, which affords a useful member, should the most hopeful views be realized.

Dec. 21st. Amputation must follow. My convictions are most decided that in injuries by the conical musket-ball, of the tarsus and ankle, amputations above the joint, or by some of the various recommended operations through it, such modification as the peculiar case may require, is the only correct practice.

GUNSHOT—KNEE-JOINT INJURIES.

Number of cases, 38; died, 30; recovered, 8.

The knee-joint wounds of the battle of Chickamauga, that were treated at General Hospital No. 1, in Chattanooga, under the post directorship of J. Moses, Surg. U. S. V., were made the subjects for testing, by experiment, the accuracy of a principle in military surgery, that I had supposed long since settled. 'Tis true most of the cases were not in our hands till the period for primary amputation had passed, but it is to be added that in no instance did the early secondary amputation interfere with the rigorous exactitude of the experiment.

The treatment universally pursued was position, incisions, and cooling applications, usually by irrigation. So mild a substitute for amputation that the utmost degree of interest centered in these cases, and favorable results anxiously hoped for.

A great number of these presented, for some time, most encouraging appearances, but under the intense inflammatory action which supervened, and the consequent suppuration, destruction of cartilage and caries of bone, the vital energies finally succumb.

But amid these ill-fated sufferers, a few, in which the joint must have been traversed, strangely passed on to recovery, without a dangerous or even a severe symptom, directed observation toward them especially, it being presumed that results so widely at variance must have in the cause an essential difference, and that this difference in the character of the injury would be of great practical importance in diagnosis.

Repeated dissections revealed uniformly the fracture of articular surfaces of the joint, in greater or less extent, the pathological condition of the parts considered in relation with their anatomical structure, seemed to point to a uniform result from this condition or character of injury, and reasoning by exclusion that in cases such as are referred to. The fracture is only traversed by the ball, no fracture being inflicted, or at most simply a grooving or abrasion of the articular cartilages occurring.

This idea seemed to find confirmation in the fact that in these

cases the ball uniformly passed antero-posteriorly, or latterally in certain directions at the level of the joint, thus affording the first qualification of this occurrence. Passing antero-posteriorly the nearly level articular surface of the tibia, the large size of the inter-condyloid notch would, especially if the knee were partially bent, render the passing of a ball without violently impinging on bony structure quite easy of occurrence; and similar considerations of anatomy and varied position seemed to afford a similar explanation to the harmlessness of the balls—cases where their course was latterally through the anterior third of the joint.

These theoretic views it was found quite easy to demonstrate upon the dead subjects, making a slit in the ligamentum patellæ, below the patellæ itself, passing in a narrow bladed knife to clear away the soft parts, and slightly flexing the leg upon the thigh, I was enabled to introduce through the joint into the popliteal space a round piece of wood one-third greater in diameter than a minnie ball, and by flexing the leg to a right angle with the thigh, the space between the bones of the joint on the anterior aspect was found to be quite sufficient for the passage of a minnie ball laterally, and through the tense skin the opening would be so small that when the leg was straightened it would appear to have entered immediately below the inner condyle.

Thus it becomes apparent that these cases should be studied, viewing the limb as nearly as can be ascertained in the position it was in when the injury was received, the opening through the skin being no certain index of the real track of the ball. The patellæ, seeming often to have been of necessity perforated, when by moving the limb to the position at the moment of injury the skin would be found to glide off it entirely and the bone be intact.

The cases 37 and 38 are introduced here for the purpose of calling attention to the ease with which error of diagnosis may occur in studying the course and effect of a minnie ball near a large joint, highly irregular in conformation. Both these cases were regarded as injuries of the joint, by many surgeons, and they have been so reported to Washington. But in No. 37 post mortem re-

vealed only a fracture above the condyles and the joint secondarily involved. Case 38, like 37, highly interesting because of the overlapping of the bones and protrusion of the upper fragment, is still living January 4, 1864, without prospect of recovery, but no involvement of the joint has occurred, and the history is such that no one conjectures that the joint has ever been injured, the case being one of oblique fractures of the femur.

The following conclusions seem well founded :

1. Every recent case should be carefully but thoroughly examined, the finger being used as the probe.
2. With a clear knowledge of the anatomy of the joint, much aid is to be derived from studying the course of the ball with the limb in the position in which it was placed at the time of injury.
3. If the ball has passed through the joint, so as to leave the cartilage and bony structures intact, or with slight scratch or seam, amputation is not advisable.
4. If bony structure is involved, fracture and comminution produced, the only warrantable procedure is amputation, the attempt to save the limb no less than a wanton robbing of the unfortunate sufferer of the only chance for life, by operative procedure.

INJURIES OF THE FEMUR.

Cases, 47 ; died, 29 ; lived, 18.

These limbs were placed in a position most comfortable to the patient, for some time when suppuration having at least become much reduced in quantity, and the reparation callus was being thrown out. They were (usually under chloroform) placed in some form of splint, with moderate extension and counter extension. My observation led me to conclude that the double inclined plane is inferior, save where the fracture is within a short distance of the trochanter, and the tilting of the upper fragment requires the adaptation of the lower fragment to it, by changing the position of the leg from the straight line, and possibly when the fracture is so low down that the condyles are drawn backward and downward.

Smith's anterior splint failed to meet my expectations in every particular. If it be applied as Dr. Smith directs the parts are hidden from view; sacculation of pus occurs, drainage is imperfect, and filth accumulates in the bandages.

If the leg be simply suspended in the wire frame, sufficient quietude of the parts is not maintained, and the extension is neither sufficient nor reliable, and if the fracture be in the upper third the motions of the body produces movement in its fractured extremities, just what a splint is designed to prevent.

The splint of Desault, modified various ways to suit particular cases, can be so applied as to secure the desired immobility, extension, drainage, exposure and cleanliness.

My impression, from observing these cases leads me to conclusions briefly summed up thus:

Amputation is almost never warrantable, but the prospect of success warrants the effort to save the life with the limb.

The proper dressing of a limb is really of great importance and very much underrated.

That "supporting" diet in the early stages of these injuries is overestimated.

That an object of the first importance is to secure abundance of fresh air, cleanliness and perfect drainage.

A very great error consists in excessive bandaging. A limb is better off without bandaging or splints until reparation has commenced.

The covering of gunshot wounds with lint, either picked or patent, is objectionable; the pus drying at the edges glues it fast, and thus the pus is not allowed to drain away.

The best splint for fractures of trochanter major, or immediately above the condyles, is some form of double-inclined plane; and for fractures in middle of the femur some modification of the Desault splint.

Report of a case of Encephaloid or Fungus Hematodes, By S. B. DAVIS, M.D., Leavenworth City, Kansas, May 31st, 1864.

About the 20th day of April last, George W. Transue, a lad of sixteen, was brought to this city from Marysville, Kansas, for treatment, and passed successively through the hands of homœopaths, uropaths, cancer doctors, &c., until the 23d inst., when I was called to see the case, with Dr. S. F. Few, of the U. S. A. General Hospital. We found him lying on his back, his right knee bent at an obtuse angle and supported beneath by pillows; his body and limbs greatly emaciated, his pulse frequent and feeble, and his countenance pale and expressive of long suffering. A pale, firm and elastic tumor, larger than* a man's head, apparently involved the whole knee, but was most prominent on its inner aspect. It was irregularly globular in shape, somewhat painful and tender on pressure, and had a deep seated pulsation, quite audible but scarcely perceptible to the hand; enlarged veins ramified beneath the skin. The foot and leg below the tumor were edematous and of diminished temperature. In tracing the femur from above downwards, it appeared to terminate abruptly about four inches above the patella. The head of the tibia could not be felt through the swollen and diseased structures. There was evidently great destruction of bone, and probably disorganization of the joint. The superincumbent integuments, the day before our visit, had given way at a point a little within the patella, followed by profuse hemorrhage. The application of a compress arrested the bleeding, but the following morning his medical attendant (?) who had expressed the opinion that the tumor was an enormous abcess, plunged a lancet into it and drew off forty-eight ounces of *blood*. The patient fainted before *matter* made its appearance, and the doctor was compelled reluctantly to apply a compress and bandage.

The history of the case, as obtained from the family, threw but little light upon the character of the tumor, and aided but little

in the diagnosis. They stated that about Christmas last, soon after returning with a train from Denver, he was seized with severe pain in or about the knee, which their family physician regarded as of a rheumatic character and treated accordingly; that soon the limb, a few inches above the joint, began to swell, that the swelling gradually and slowly increased, progressing downwards, for two or three months, when it grew more rapidly, and that at times there was throbbing and severe pain present, and at other times these were trifling or entirely absent.

Drs. Jones and Sinks, of this city, were called in consultation, but neither of them were satisfied as to the character of the tumor. Was it osteo, aneurismal or malignant? We were inclined to the former opinion. All agreed, however, that amputation alone offered a chance for the patient's life. His constant confinement to one position, without hope of change, the rapid growth of the tumor, accompanied with pain and uneasiness, and his mental anxiety, were taxing his vital powers beyond endurance; but above all the liability to fatal hemorrhage at any hour, we considered as justifying surgical interference, even with a remote hope of saving life. The certainty of death at no distant period without an operation, the chance, though small, of saving life by an operation, together with the danger of his dying under the knife, were candidly and feelingly stated to the patient and his friends. They unhesitatingly decided in favor of amputation. An early hour the following morning was designated for the operation, and strict directions left for proper care and watchfulness through the night. Assisted by Drs. Few, Jones and Parks, and hospital stewards Kinnear and Redman, I amputated at the time appointed, adopting the circular operation as allowing the greatest economy of integument, without including in the covering of the stump, the deeper structures, which were more likely to be found diseased. The bone was severed at the junction of its upper and middle thirds. The loss of blood was trifling. Chloroform was given with

happy effect. When returned to his bed the patient was comfortable and cheerful, his pulse much reduced in frequency and increased in strength. Milk punch was given freely during the day, and when I called, late in the evening, his condition was such as to give me hopes of a favorable issue, but in the night he was attacked with dyspnoea, and on being raised from his pillows, with fatal syncope. He died thirteen hours after the operation.

Appearances on Dissection.—On laying open the tumor, the cut surfaces presented innumerable cavities of various dimensions, filled with clotted blood and medullary matter, with here and there masses of gelatinous matter. Osseous fragments were interspersed throughout the greater part of the tumor. On the inner aspect of the knee was a mass of encephaloid matter about half the size of a cocoa nut, and of the consistence and color of the cineritious portion of the brain. The balance of the tumor was principally hematoid. The popliteal vessels and nerves were found to have maintained their integrity. About four inches of the femur was entirely destroyed, including the condyles, leaving but a thin shell beneath the articular cartilage. The articular surfaces were unaffected, as were the ligaments of the joint and bones of the leg. The medullary canal and spongy structure of the femur were involved to half way within its middle third. At the point of amputation the bone and soft structures had a healthy appearance.

American and Foreign Intelligence.

Clinical Lecture on Sciatica. By HENRY WM. FULLER, M D., CANTAB., Physician to St. George's Hospital.

GENTLEMEN: In the whole range of our medical vocabulary there are no two terms which are applied more loosely, or made to embrace so many different maladies, as those of "rheumatism" and "sciatica." In a former lecture I showed you how various are the forms of disease usually comprehended under the title of rheumatism, and how opposite the treatment required in the different varieties. To-day I propose to bring under your notice some cases which have occurred in the wards of the hospital, in illustration of several of the varieties of disease which are often classed under the title of sciatica. You will thus be reminded by actual examples how necessary it is to determine the precise nature of the malady you have to encounter before you decide upon a plan of treatment, and how fruitless in many cases must be your efforts to afford relief if you regard all pain down the course of the sciatic nerve as evidence of the existence of true sciatica, or, in other words, of pain consequent on irritation of the sciatic nerve unconnected with general derangement or with local mischief elsewhere.

The first case which I will take as a text for my remarks is that of W. G—, a porter, aged fifty-one, who was admitted into Fuller ward on the 5th of May. Two weeks previous to his admission into the hospital the man had been attacked with wandering pains in various parts of the body, and especially with acute pain down the course of the sciatic nerve in both legs. The pain extended from the hip to the ankle; was most severe when he was hot, in bed; and was felt almost as acutely when he was perfectly still as when he made an attempt to move. Embrocations and various internal remedies had been employed without any relief to his sufferings. On admission, his complexion was pale and sallow; the skin was cool; the pulse 76, of good strength and regular; the urine high colored and loaded with lithates; the tongue much furred; and the bowels were regular. Scarcely any part of his body was quite free from pain, but his principal complaint was of acute pain in the course of both sciatic nerves, accompanied by

starting of the limbs. From the commencement of his attack he had experienced fugitive pains in the joints, but there had not been articular redness or swelling.

Here, then, was a case of sciatica connected with the existence of a rheumatic diathesis. The history of the attack and every symptom observed during its progress pointed to this conclusion. There were wandering pains in the limbs and occasional pains in many of the joints; there was furring of the tongue, and there was loading of the urine. The pain in the sciatic nerve was not confined to one side of the body, as it is when the pain is referable to renal irritation, or to any local cause of mischief, but it existed equally on both sides, and extended down the whole course of the nerve. It was evidently due to some cause pervading the entire system, producing disturbance of the excretions, and occasioning pain in various parts of the body. Regarding this cause as of rheumatic origin, I decided to treat it as an ordinary case of subacute rheumatism. If my view were correct, it would be useless to employ blisters, fomentations, or embrocations down the course of the affected nerves, as the source of their irritation was not local but general, and therefore to be met by measures directed against the morbid state of the blood. Accordingly, I limited the patient's diet to beef-tea, and prescribed ten grains of colocynth-and-calomel pill to be taken immediately; and an ounce and a half of the guaiacum mixture every six hours, containing two scruples of bicarbonate of potash and six grains of iodide of potassium. The result was just what I had anticipated. By the 11th the urine had become clear and only faintly acid; the bowels were acting freely, and the alvine dejections were healthy; the tongue had nearly cleaned, and the sciatic pains had greatly decreased. Fish, therefore, was ordered for his dinner in addition to the beef-tea, and the mixture was continued as before. On the 15th, as his progress was satisfactory, and his tongue was clean, and the urine continued clear, he was allowed the ordinary meat diet of the hospital, and on the 18th he returned home quite free from pain.

Let me contrast with this case that of S. C—, aged fifty, who was admitted into the Crayle ward on the 4th of April. This woman had not felt well since the cessation of her monthly periods twelve months previously, and for about a month before her admission she had suffered from sciatica of the left side, extending from the hip down to the ankle. The pain was felt sometimes in the iliac region and down the front of the thigh and leg, as well as in the hip and down the back of the limb, but it was more constant behind than in front. It was not materially aggravated by exercise, was always worse at night, and was so acute as to prevent her sleeping. The want of rest and long-continued suffering had rendered her weak and nervous. She had undergone a variety of treatment without relief. On admission, she had a worn look, but her general aspect was healthy; her skin was warm and moist; the pulse 120, weak; the urine clear and pale; the tongue coated

and yellow ; the appetite good ; the bowels were reported regular ; and the catamenia had been absent twelve months. She suffered much from cold feet. Now you will observe that this woman did not present symptoms of true rheumatism : her aspect was healthy, the pain stationary, the urine clear and pale ; and the only trace of disordered secretion was afforded by the coating of the tongue, which disappeared as soon as the bowels had been unloaded by means of ten grains of colocynth-and-calomel pill. But there was abundant evidence of disturbance of the nervous system, and of that irregularity of the circulation which is often observed coincidentally with it ; and it was more than probable that the derangement of her system had originated in the sudden cessation of the monthly discharge. Be this as it may, it was obviously useless to treat the case as one of rheumatism ; the symptoms pointed rather to the necessity of tonics to uphold the patient's strength, and for medicines addressed to the relief of nervous irritability. Accordingly, I prescribed the cinchona draught, with the addition of five grains of quinine, ten minims of dilute sulphuric acid, and six minims of tincture of aconite, to be taken three times a day ; and ordered a generous diet and a pint of porter daily. The result was even more satisfactory than I had anticipated. The pain subsided in a few days, and she left the hospital in a fortnight quite free from sciatica.

A similar case was under your observation some time since in Queen's ward, in the person of G. K——, a married woman, aged fifty-eight, who was admitted on the 5th of May. She had suffered for four months from pain, sometimes in the back, but more frequently in the front of the left thigh and leg, extending from the hip down to the foot. The pain was not materially aggravated by motion, but was decidedly worse at night. She was a stout person, of lax fibre, and for some time had complained of debility. Her complexion was healthy ; her skin warm, not hot ; the tongue clean ; the urine clear and pale ; the pulse 108, weak ; her appetite good. The bowels were costive, and the catamenia had been absent since she had attained the age of thirty-eight. She had never suffered from gout or rheumatism, and had not experienced pain in any part of the body except the left thigh and leg. Having regard to the general appearance and history of the patient, and to the absence of all symptoms of true rheumatism and of any local cause irritation, I was led to regard the case as one of those to which, for lack of a better term, we apply the title "neuralgic." In some of these cases quinine or bark and aconite prove extremely serviceable ; in others which are characterized by pallor and nervous exhaustion, rather than by mere irritability of the nervous system, the use of iron is markedly beneficial ; whilst a third class of cases, in which the general health appears tolerably good, and irritability of the nervous system is the more prominent feature, sedatives, whether given internally or applied externally, or injected directly into the cellular tissue of the affected limb, appear

to be more commonly productive of relief. In the instance before us, the principal indications for treatment were the costive state of the patient's bowels and the general debility. Accordingly I gave her the ordinary meat diet of the hospital, with a pint of porter daily; administered a large turpentine enema, with the view of making sure of a thorough emptying of the lower bowel; and prescribed the cinchona draught every six hours, with the addition of six minims of tincture of aconite. By the 11th the pain had much diminished; by the 15th it had entirely ceased; and on the 19th she left the hospital, the only other remedies which had been prescribed being an occasional pill to regulate the action of the bowels.

The case of J. M—, who was admitted into the Hope ward, on the 16th of October, is a good example of the relief afforded by the injection of morphia into the cellular tissue. This man, a stableman by occupation, had suffered from sciatica of the right side above three months, and had undergone treatment without relief. He described the pain as just as severe when he was motionless as when he attempted to move. He had never had rheumatism or gout, and could not account for the accession of the symptoms. On admission his aspect was healthy, the skin natural, tongue clean, urine pale and clear, pulse 96 and of fair strength, and the bowels were reported regular. His appetite was good. A more complete description of a normal condition of the body can scarcely be imagined. No evidence of a gouty habit was to be detected here; no history of rheumatism could be elicited. There was no mischief about the hip; no renal irritation; no loading of the bowels; no obvious cause of local irritation. What, then, was to be done for the man's relief? Were there no indications for treatment? Assuredly there was one, in itself important, and which in the absence of any contraindication, was necessarily paramount. The man had suffered severely from pain for the space of three months, and that pain had to be relieved. In short, sedatives were called for; and the question to be decided was as to the form in which they should be administered. I began by ordering fifteen grains of Dover's powder each night, and a powder containing half a drachm of guaiacum and the same quantity of sulphur twice a day, with a view to regulate the action of the bowels. At the same time, the patient was permitted to have the ordinary meat diet of the hospital, and a pint of porter daily. He continued this course until the 22d, when the pain was undiminished, and it became obvious that if any good was to be effected by sedatives they must be employed in larger quantity, and applied locally. In many of these instances you have seen me use, with great success, a lotion composed of two drachms of the extract of belladonna, three ounces of laudanum, three ounces of glycerine, and two ounces of water. The painful limb is encased in linen steeped in this lotion, and covered with oiled silk or gutta percha. A continual fomentation is thus kept up, the skin readily absorbs the liquid in contact with it, and the glycerine renders it unneces-

sary to renew the application above once in twenty-four hours. But in the case of J. M.—, the indications for the use of a sedative were so decided that I determined to apply it by means of subcutaneous injection. Its action when thus administered is more immediate and more certain; so much so that if it is capable of affording relief, its curative effect is often displayed in the course of a few hours—a circumstance gratifying no less to the patient than to his medical attendant. Accordingly, I omitted the medicines which the patient had been taking, and ordered half a grain of morphia to be injected at bedtime into the cellular tissue of the left leg. This was readily accomplished by means of a small glass syringe fitted with a fine perforated needle. The effect was immediate. The pain ceased, the patient went to sleep, and on the following day awoke quite well. To make sure that the pain was thoroughly subdued—not merely lulled—we kept him in the hospital until the 31st, when, as he still remained perfectly well, he was permitted to return home.

The result in this case was so immediate and so striking, that you may perhaps be inclined to regard it as exceptional. In some respects it was so. Rarely does one subcutaneous injection of morphia so thoroughly subdue the pain as to render the second and third injection unnecessary; but when this method of employing sedatives is had recourse to in appropriate cases, its beneficial effects are strikingly displayed within a very short time. Often-times the few hours succeeding the injection are the first hours of sleep which the patient has enjoyed for some weeks; and although a second, a third, or even a fourth injection may be added to complete the cure, each succeeding operation exerts a distinctly curative action, and leaves less of pain to get rid of. In this, however, as in other instances, the successful issue of the treatment depends upon its adaptation to the exigencies of the case. In sciatica referable to local mischief or to gout, rheumatism, or other distempered conditions of the blood, the use of morphia or other sedatives can only be palliative, not curative. In such cases the cause of irritation must be got rid of by appropriate remedies before the effect of morphia in checking the continuance of the nervous irritation will be manifested. But when the disease consists essentially of irritation of the nerve, and is independent of local disease and of general systemic derangement, the result of the administration of sedatives is most satisfactory. You may fairly ask me how are you to diagnose the cause to which I refer. The question is more easily asked than answered. In truth, the diagnosis of these cases is most difficult, and is only to be effected by a careful consideration of the patient's history and of the symptoms which are absent as well as of those that are present. By a carefully conducted system of exclusion it is often possible to arrive pretty nearly at a correct result. If there is no history either of gout or rheumatism, and no loading of the urine as if a rheumatic or gouty influence were at work in the system; if the

patient has not recently suffered from syphilis or gonorrhœa, so that the pain is probably not induced by the agency of those morbid influences; if the tongue is clean and the bowels are regular, so that there is no reason to suspect any loading of the bowels, or the existence of conditions in the primæ viæ exciting sympathetic irritation; if there is an absence of symptoms of renal irritation, hip disease, and of local organic disease of the nerve; and if at the same time the patient is excitable, and has been subjected to overwork or to other causes of nervous exhaustion—the probability is that the sciatic pain will prove to be a true neuralgia, and will disappear under the influence of quinine and opium. Some clue to this fact may be derived from the character of the pain, though at the best this forms an uncertain indication. Cases of sciatica, if viewed solely in relation to the character of the pain, may be divided roughly into three classes: in the first there is no pain when the patient is at rest, but pain ensues when he attempts to move; in the second there is pain at all times, but its severity is increased on motion; in the third there is also pain at all times, and the pain is greatly aggravated in paroxysms which usually occur towards night, but it is not increased on motion. The neuralgic cases in which sedatives are of service belong to one of the last two classes—usually to the last; and although I do not promise that you will be successful in affording immediate relief to all on whom you make the attempt, I do not hesitate to insure you that if you will restrict the use of sedatives—whether administered by the mouth, by external application, or by the subcutaneous injection—to cases in which the pain is more or less constant, aggravated in paroxysms, and not materially increased on motion, and will previously take the trouble to assure yourselves of the absence of any local or humoral cause of sciatica, you will rarely fail to find sedatives serviceable in the subjugation of what would otherwise prove an obstinate intractable pain. Blisters, issues, and other local irritants, and derivatives, which are often employed in these cases under the mistaken idea of the pain being referable to local inflammation, are useless—nay, positively mischievous. They irritate and exhaust the patient, and depress him mentally as well as physically. I have often been called in private practice, to patients who for many weeks have been subjected to a succession of these torturing applications without the slightest relief, and in whom the free use of opium and a few full doses of quinine have at once subdued the patient's sufferings. In a modified degree you have often witnessed the same fact in patients under my care in the wards of this hospital.

Time will not permit me to do more than allude very cursorily to many instances which have come before you in the hospital in which sciatica has been connected with gout or gonorrhœa. The case of W. H——, aged fifty-nine, who was admitted into the Hope ward on the 8th of February, was an excellent example of the agency of gout in exciting the disease, and that of B. R——,

aged twenty-seven, who was admitted into Cambridge ward on the 22d of October, of the influence of gonorrhœa in producing the same result. But I would take the opportunity of urging upon you again, the necessity of endeavoring to discover the exciting cause of the disease before you decide upon a plan of treatment. If you fail to ascertain the source of the irritation which is causing the sciatic pain, you must necessarily prescribe in the dark; your remedies will not be suited to the exigencies of the case, and you will seldom succeed in relieving your patient. An apt illustration of this fact is afforded by the two cases just referred to. In the former, a history of gout was elicited at my first interview with the patient, and accordingly I prescribed colchicum with ant-acids and gentle tonics. The remedies were in strict relation to the nature of the disease, and the consequence was that the pain was relieved within a few days, and the patient left the hospital at the expiration of three weeks. In the latter I was at a loss to account for the symptoms, for the patient was young, his aspect was healthy, there was no apparent local mischief, and no history or present evidence of general derangement of the system. Under these circumstances I suspected a venereal taint, and should have treated the case accordingly, but that the man firmly denied having ever suffered either from syphilis or gonorrhœa. I was, therefore, induced to try the effect of active purgatives, and afterwards of opiates in full doses. But the remedies were not suited to the case, and therefore were given in vain. After more than a fortnight's treatment the sciatica remained unrelieved. Shortly, however, he began to complain of the occurrence of pain and tenderness on his shin-bones. My suspicions as to the venereal origin of his attack were thus confirmed, and I at once prescribed ten grains of iodide of potassium, with fifteen grains of acetate of potash, and an ounce and a half of the cinchona draught, to be taken three times a day. The result was a speedy cessation of the symptoms. Within a week the severity of the pain had greatly diminished, and at the expiration of a fortnight the patient left the hospital quite free from sciatica.

In another class of cases sciatica is connected with sympathetic irritation, excited by a long continued loading of the bowels, or by the presence of crude irritating secretions in the primæ viæ. In many of these instances the patients have never suffered from gout or rheumatism, and there is an absence of symptoms indicative of hip disease, of renal irritation, or of general nervous irritation, as in the cases last mentioned. The skin is cool, the complexion is seldom pallid as in cases of rheumatism, the urine is usually clear and often pale, there is no pain in, or retraction of the testicle, and no pain in the course of the ureter. Further, the pain is usually felt down the course of both sciatic nerves, instead of being confined to one side, the tongue is furred, and the bowels are costive. In this class of cases the indications for treatment are obvious enough. It behooves us to act fully on the bowels, so

as to rid them of all irritating secretions, and of the hardened feces which are often impacted in them. But ordinary purgatives are of little avail for this purpose. Experience proves that colo-cynth pills and senna draughts and saline aperients will induce free watery evacuations from the primæ viæ, but will fail in removing old accumulations in the bowels, and in relieving the patient's suffering. The means by which this end must be attained are enemata of a stimulating character, opium followed by full doses of castor oil or croton oil, and the continued use of guaiacum. No purgative is more certain in its operation than guaiacum, and none can be more thoroughly relied upon for affording relief. Combined with sulphur in equal proportions, in the form of powder, it proves a never-failing aperient if given in half drachm doses twice or three times daily; and if administered only in appropriate cases, it proves one of our most trustworthy allies. You have seen me employ it so often in this hospital that it is scarcely necessary to direct your attention to it more particularly, but I will even detain you a few minutes whilst I recall the symptoms of J. S——, aged fifty, who was admitted into the Fuller ward on the 5th of May. This man was attacked with sciatica of both sides six months before admission, and although the pain had varied in intensity from time to time, it had never ceased since the commencement of the attack. He described the pain as of a dull aching or gnawing character, slightly aggravated by motion. It did not increase in severity at night, and it had not been accompanied by pain in any other part of the body. He had never suffered from gout or rheumatism, and his general health was good; his aspect was healthy; tongue coated; bowels reported open, though usually costive; urine clear and acid; pulse 76, soft. Here, then, was a case in which all the causes of sciatic pain which we have hitherto considered appeared to be absent. There were no symptoms of local mischief in the spinal cord, or in the sciatic nerves, or of hip disease, or of renal irritation; no evidence of the existence of gout or rheumatism, or venereal taint; no mark of general nervous irritability, requiring sedatives for its subjugation. The patient was not a weakly or a nervous man, and his pulse was steady and quiet. To what, then, was the pain attributable? What indications were there for treatment? One, and one only, could be discovered. His tongue was coated, and his bowels were usually costive. True, they had acted on the morning of his admission, but when acrid or hardened feces accumulate in the lower bowels, they do not necessarily obstruct the passage so far as to prevent even a daily action of the bowels. Nay, rather they are apt to excite local irritation, and a frequent desire to go to stool, which often leads the patient to imagine that he is suffering from diarrhoea. You have often noted cases in the wards of this hospital in which a spurious diarrhoea, excited and kept up by the cause under discussion, has resisted chalk mixture and various astringents, and has yielded immediately to a dose of castor oil,

which has brought away a quantity of hardened feces, or acrid unhealthy secretions. Therefore it was that in the case of J. S— I did not allow the alleged action of the bowels to deter me from following out the plan of treatment I had resolved upon after a careful consideration of the symptoms of the case. If the pain were not excited sympathetically with the presence of acrid irritating matter in the intestines, to what could it be attributable? The closest inquiry had failed to elicit the slightest evidence of the existence of the other causes of sciatica, and if the cause under discussion had not excited the pain there was no indication for treatment. Accordingly I determined to make trial of remedies which will usually get rid of fecal accumulations, and thus effect the object I had in view. Whilst allowing the patient a full and generous diet, with a pint of porter daily, I prescribed a powder, to be taken three times a day, consisting of two scruples of guaiacum and two of sulphur. This treatment was commenced on the 5th of May, and was continued until the 11th. At that date the pain was greatly relieved, and the bowels were acting so freely, that the powder was repeated only night and morning. From this he took it usually twice, but sometimes once a day, according to the action of the bowels, until the 19th, when, as he no longer suffered from pain, he left the hospital, and returned to work.

The instances I have hitherto brought before you have been examples of sciatica, in which, the cause of the disease having been correctly diagnosed, the treatment was adapted to the exigencies of the case, and relief was speedily obtained. But although I have wished to bring prominently before you the possibility—nay, the probability—of affording speedy relief, if an appropriate method of treatment is employed, and the equal probability that failure will attend your efforts if you do not correctly ascertain the cause of the sciatic pain, and therefore cannot determine the class of remedies which are needed, I would caution you against putting a too favorable interpretation on my remarks, and imagining that sciatica ought in all cases to be got rid of within a few days of the commencement of treatment. Some cases there are, as you have already seen, which admit of relief in a very short time, but there are others, and unfortunately a large proportion, in which the patient's health is undermined, and cannot be so speedily restored, even though the nature of the derangement be correctly diagnosed; and others again in which it is almost impossible, at the outset of the attack, to arrive at a correct conclusion respecting the causation of the pain, and in which, even if a correct judgment was formed on this point, it would still be impossible to afford speedy relief. Let me instance the case of P. D—, aged forty-eight, who was admitted into the Hope ward on the 11th of December. This man, a "commissionnaire" by occupation, had suffered nine months from pain down the course of the right sciatic nerve. It came on gradually, and he attributed it to the effect of exposure to wet and cold. The pain was constant, but was worse at night,

and prevented his obtaining quiet rest. A variety of external applications had been made use of prior to his admission to the hospital, but the pain had steadily increased in severity. On admission, his aspect was healthy ; his skin natural ; pulse 84, of fair strength ; tongue rather coated ; bowels reported regular ; urine scanty, high-colored, and turbid ; appetite good. He had never suffered from gout or rheumatism, or renal irritation, but he was extremely nervous. Judging from his history, and from the condition of his tongue and urine, I was led to regard his symptoms as attributable to rheumatic irritation of the nerves, aggravated by his nervous temperament. Acting upon this view, I prescribed a subcutaneous injection of half a grain of morphia at night, and a powder three times a day, containing guaiacum, sulphur, and carbonate of soda—a scruple of each. This treatment was pursued until the 17th, when as no relief had been obtained, he was ordered five grains of iodide of potassium, half a drachm of bicarbonate of potash, and an ounce and a half of nitre draught, every six hours. On the 21st his pain remained undiminished, and he complained of feeling weaker ; and as his tongue had cleaned, and his urine had become clear, a drachm of the sesquioxide of iron was administered three times daily, and the biniodide of mercury ointment was ordered to be rubbed in along the course of the nerve. So he went on until the 2d of January, when he complained of so much pain in the hip that I was again induced to make a careful examination of the joint. I then discovered considerable tumidity and general enlargement over the joint, which was painful on pressure, and evidently much distended with fluid. He could move his leg carefully without pain, but could not bear the head of the femur to be pressed upwards against its socket. Under these circumstances I applied a blister to the hip, and had the blistered surface dressed with mercurial ointment ; at the same time I gave him a morphia draught at night, and ordered him to take three times a day a nitre draught containing six grains of iodide of potassium, and two drachms of the solution of bichloride of mercury, forming a soluble biniodide of mercury. Notwithstanding this treatment the pain became more constant and severe, and on the 15th, as the mischief appeared to be purely local, and the occurrence of ulceration of the cartilages more than probable, he was transferred to the care of the surgeons.

Now I would have you remark in reference to this case—first, that the nature of the disease was overlooked, not only by those who had charge of the man prior to his admission to the hospital, but also by myself on his admission into the hospital, and that it was not until after the lapse of three weeks, when the enlargement of the hip attracted my notice, that I became aware of the serious mischief I had to combat. The result—the inevitable result of this non-appreciation of the nature and extent of the mischief—was want of success in affording relief, and a steady progression of the disease. Probably the man was correct in his assertion that

the malady was originally of rheumatic origin, for he was healthy in appearance, and had not experienced any local injury of a nature to set up disease in the hip-joint. It is quite conceivable, therefore, that if, when he was first attacked by the pain, its rheumatic nature had been recognized, and he had been subjected to treatment calculated to get rid of the rheumatic tendency, instead of being merely treated by embrocations, lotions, and other local applications, which could have no influence on the cause of the disease, and little effect in subduing its local consequences, he might have escaped the injury to the joint, which, doubtless, was commencing at the time of his admission into the hospital. In like manner, if the true extent and character of the local mischief had been discovered when he first presented himself to my notice, and those measures had been at that time adopted, to which I was ultimately obliged to have recourse, he might even then have been saved much unnecessary suffering. Rely upon it, gentlemen, the success of treatment depends upon its adaptation to the requirements of the case, and that in sciatica the non-success of any particular plan which may be adopted is in itself conclusive evidence that the remedies are not in keeping with the nature of the case. If the pain is referable to any removable cause, and the remedies are calculated to subdue or get rid of it, relief will be experienced in the course of a few days, and the patient will thenceforward proceed steadily to recovery; and if you fail in any instance to afford relief in ten days or a fortnight, you will always do well to mistrust your diagnosis, and make a fresh examination of your patient. In the case of P. D—, I deferred doing so until after the lapse of three weeks, under the belief that my diagnosis was correct, and that a change of remedies might prove beneficial. The result shows how wrong I was in transgressing the rule which I have laid down for your guidance; and if you require any further incentive to induce you to follow my precept, rather than the example which I set you in this case, I may assure you that I have scarcely ever been called to see a case in which this rule had been departed from without feeling how much better the patient would have fared had his medical attendant been less confident in his diagnosis, and more disposed to pay heed to the teaching of nature, as evinced by the result of treatment.—*Lancet*, April 23, 1864.

On a Case of Spontaneous Thrombosis in the Left Femoral and Saphena Vein, By H. M. TUCKWELL, M.D.

A. B., aged 33, has previously enjoyed good health; during the past year has allowed himself but little rest in his profession, and has become thoroughly overworked. His present illness commenced about a month ago with severe pain in the head, which lasted five or six days without intermission, and left him much

weakened. The pain then shifted to the loins, and continued there for two weeks, during which time he was extremely depressed and unable to get about. At the end of this time, rather more than a week ago, he was attacked suddenly in the night by a violent pain in the right side, which seems to have been purely neuralgic, for no signs of pleurisy could be detected at the time; this pain continued for three days and nights, during which time *he lay continually on the left side*, without sleep, and taking no food, till, on the fourth day, it left him almost as suddenly as it had come on. On attempting now to change his posture he found that the leg was quite numb, that sensation began to return after rubbing the leg for a time, but that with returning sensation there came on an intense pain in the lower part of the leg, more especially in the calf; that he soon observed the leg and foot beginning to swell; that the swelling gradually involved the whole leg, and extended up the thigh to the groin, the pain becoming generally diffused and intensified as the swelling extended and increased. I saw him on the fourth day after the swelling had commenced, when the following appearance presented itself:—

He is extremely prostrate, unable to raise himself in bed; the eyes hollow; the voice low and changed; skin generally cool, except of the left leg, which is abnormally hot; pulse 60, very small, thready and irregular, intermitting at every third beat; thorax generally resonant on percussion; respiration feeble, but free from any morbid sound; urine natural. The left leg, from the groin to the toes, is enormously swollen, pitting everywhere deeply on pressure, its surface is hot and very sensitive; an indistinct hardness can be felt through the œdema along the course of the femoral and saphena vein as far as Poupart's ligaments, above which point it cannot be traced; beneath the œdematosus integuments large superficial veins are seen ramifying along the anterior and outer aspect of the thigh.

Diagnosis.—Thrombosis of saphena and femoral, perhaps of external iliac vein.

Treatment.—To relieve the pain, cold was applied to the whole limb in the form of evaporating lotions, and the limb was supported on pillows. Small quantities of brandy and wine were administered, with milk and beef-tea.

On the day following, Mr. Savory saw the case with me, and gave me the benefit of his valuable opinion. He fully concurred in the diagnosis, but advised that the leg should be wrapped in cotton-wool, and pressed upon me most forcibly the necessity of increasing the quantity of stimulants, bidding me, to use his own words, "measure the quantity not by the glass or bottle, but by the effect produced." From this time, brandy, rum, port, sherry and champagne were given every two or three hours day and night, till, on the sixth day from the time that I first saw him, he was taking, in the twenty-four hours, brandy, 3 *zij.*; rum, 3 *xij.*; wine, 3 *xx.* The effect of this on the pulse was as follows:—It rose from 60 to 94, the intermissions at the same time becoming less

frequent, and the volume better and better, till, on the tenth day from the time that the stimulants were first given, and while he was still taking the above quantity, *it fell to 84*, and ceased to intermit. His general condition improved, *pari passu*, with the pulse. At the request of the patient I returned to the cold applications, after having made fair trial of the cotton-wool and found that it made the leg uncomfortable, while the cold relieved the pain in a marked degree. On the twelfth day, the pain having quite subsided, while the swelling remained unchanged, the leg was carefully rolled in flannel bandages, moderate pressure being at first employed and gradually increased, and it was swung from a fracture cradle, with the foot slightly raised. This was continued during a period of seven weeks, at the end of which time the swelling had entirely disappeared. It may be remarked that the œdema subsided rapidly for the first week after the application of the bandage, but then seemed, for a time, to remain stationary, and was at last slowly removed. The quantity of stimulants was gradually reduced after the fourth week.

He has now recovered his health, can walk two or three miles in the day, but still finds, after a walk, that the leg and foot feel heavy, and that the veins in the foot become, in spite of a lace-stockings, considerably distended. There is now nothing abnormal to be felt or seen in the thigh in the region of the large veins, nor is there any visible enlargement of the superficial veins there.

Remarks.—The occurrence of spontaneous coagulation in the living veins, simply as a result of nervous debility, independently of the puerperal state, of fever, or of any wasting organic disease, as phthisis, cancer, etc., is seemingly, a rare phenomenon. On reading through Virchow's masterly paper on the subject, I cannot find, among the many cases of thrombosis there enumerated, one exactly similar; nor is there in Cohn's monograph one case in which there was not either some organic disease or fever to account for the coagulation. Not that I wish to instance this case as one whose pathology is distinct or special, for the so-called "Marantischer Thrombus" of the Germans, or clot that forms in wasting disease, is, as Virchow has shown, dependent primarily on the same cause,—an enfeebled state of the heart's action; but the disease here presents peculiar interest, in that there was an absence of any dyscrasia or fever which might be supposed to give rise to the formation of a thrombus by altering the composition of the blood; it shows that to a feeble heart alone may be attributed all the symptoms and signs of the worst form of "phlegmasia dolens." It may be urged by some, in contradiction of this assertion, that phlebitis was here the real cause of the coagulation; but a careful observation of the way in which the disease showed itself seems to me to afford convincing evidence that no phlebitis whatever was present, and thus to confirm still further the doctrines of Virchow. The rapid development and extent of the swelling certainly point to a primary obstruction of the main venous trunk in the thigh. Now, if this obstruction had been due to phlebitis, surely the first

symptoms of pain and swelling would have been noticed in the immediate neighborhood of that venous trunk, whereas nothing of the kind was observed. The swelling and pain commenced in the leg and foot, and extended, last of all, to the thigh; nor was there at any time marked pain, along the course of the obstructed vein, distinct from that felt all over the leg. Besides, the general symptoms were not those of an acute inflammatory process; the skin of the body, generally, was cold, and the pulse quite unlike that of inflammation. The conversion of the saphena and femoral vein into a solid tube by coagulation of their contents, is quite sufficient to account for the hardness felt along their course.

John Davy and Gulliver were the first to notice the frequent occurrence of clots of this kind in the veins of those who had suffered from chronic diseases, with failing circulation and great prostration of the vital powers. After them, Hasse and Bouchut turned the attention of pathologists still further in this direction. But to Virchow must be awarded the largest share of praise, for he it was who first cleared away the mists which enveloped the whole subject; he showed, by repeated experiments and post-mortem examinations, that the doctrine of phlebitis, first promulgated by John Hunter, is erroneous; that the coagulation is not preceded by inflammation of the vein, and that there is no exudation on the free surface of its inner coat which determines coagulation; but that, through failure of the heart's power, the blood current is retarded and finally stagnates, and that the starting point for coagulation is at the point of junction of the valve with the wall of the vein, the valve here (like the chordæ tendinæ in the heart) acting as a foreign body, and furnishing a centre round which the stagnant blood coagulates.

It is worthy of notice that, in circumstances predisposing to thrombus formation, a long continuance in one posture seems to favor the occurrence of the phenomenon, and that the side to which the patient inclines is often the side on which the clot forms. Virchow dwells upon this, and relates cases which corroborate the statement. Cohn has observed the same; he mentions one case in particular—a case of Bright's disease with effusion into the right pleura—where the patient lay continually on the right side and right arm, and where the whole right arm became œdematosus from the formation of a thrombus found after death in the sub-clavian vein.

The contingencies to be feared in these cases are, first, that the heart may not be able to recover itself, and that death by asthenia may follow rapidly; secondly, that erysipelas may set in, followed by diffuse abscess, or even gangrene; thirdly, that a portion of the clot may be detached and washed into the pulmonary artery, causing sudden death; fourthly, that the clot may undergo the so-called retrograde metamorphosis, may soften and break down in its interior, and that this softened, ill-conditioned fibrine may be

carried into the general circulation, and cause death from pyæmia. The heart must regain its lost power, and the clot must undergo a healthy process of organization, before anything like a favorable prognosis can be given.

The question then arises as to how the circulation is re-established; the answer to which is, by the formation of collateral channels, if the vein be completely obliterated by the organized clot. But it may also happen that the canal of the obstructed vein may in part reopen; that the clot, during the process of organization, may shrink away from one wall of the vein as it becomes adherent to the other; and that the blood may flow on again in its original channel, now of necessity much narrowed by the changes that have taken place. It is probable that the latter has occurred in the case related, from the fact that there are no large superficial veins visible.

The circumstances of principal interest in the treatment employed are, the beneficial effect of cold, the value of pressure, and the necessity of stimulants.

The application of cold—a remedial agent so largely employed in Germany—is strongly recommended by Virchow as the best and often the only means of alleviating the terrible pain that follows the sudden obstruction by an embolus of one of the large arteries of the extremities. The relief it afforded in this case was most marked. Pressure carefully applied and gradually increased by means of a flannel bandage—a plan of treatment employed by many obstetric physicians in the latter stages of the puerperal phlegmasia dolens—was here, too, attended with good results. The rapid and manifest improvement in the general condition of the patient, and the restoration of the heart's power in proportion as the quantity of stimulants was increased, sufficiently indicate their importance in the treatment of such cases. And, surely, if alcohol acts thus beneficially after the mischief has been done, we cannot avoid the reflection, that the free use of alcohol in wasting diseases may often avert the mischief altogether, and that the stimulant plan of treatment has, at any rate, this much to be said in its favor, that it tends to prevent the formation of thrombi. In the history of this disease we have, certainly, one satisfactory example of the way in which a real advance in pathology leads to a corresponding advance in therapeutics.—*Medical Times and Gazette.*

[The preceding article has been transferred to our pages of selected papers on account of its practical interest, and that we might call anew the attention of readers to a class of important cases, to which that above recorded belongs, and instances of which now and then occur with disastrous results in the practice of every physician.

Sudden death from fatty degeneration of the heart is but a sin-

gle consequence of the influences which, operating in a less degree, produce results similar to those recorded by Mr. Tuckwell. A number of striking instances have been related in this JOURNAL on various occasions, where patients died suddenly, or came near it, solely from the inefficiency of the muscular power of the heart to propel the blood to the brain, the syncope consequent thereon terminating fatally or nearly so. Other cases illustrating this mode of death, have, from time to time, been reported as following the sudden rising from the recumbent to a sitting posture of females recently confined; the muscular force of the heart, weakened by the exhaustion incident to pregnancy and its attendant loss of blood, proving unequal to the task of circulation; or, what practically amounts to the same thing, the volume of circulating fluid being greatly diminished and altered, becomes an inadequate stimulus to the heart, which thus fails to drive the blood to the brain, against gravity, in sufficient quantities for the sustenance of the nervous influence upon which its contractile power depends; syncope, therefore, takes place and not unfrequently proves fatal. Mr. Tuckell points out in his paper other accidents consequent upon this condition of the heart. In the case narrated, an arrest of a portion of the circulation was produced by the influences we have described. The bearing of these upon the production of phlegmasia dolens is also distinctly alluded to. As interesting in this aspect of the subject, we desire to mention the following case:

A patient, recently under our charge, was confined in November last. Naturally healthy and robust, the care of children and household responsibilities, none of which her energetic disposition would allow her to delegate to others, had enfeebled her health and reduced her strength to a state ill qualified to bear the further exactions of an increasing family, or to resume at so early a period as inclination prompted her domestic duties. After a slow convalescence, and contrary to advice, she again, however, returned to her active habits, long before her anaemic and exhausted condition warranted. Early in February a small felon formed on one of her fingers; a fortnight later, a little, indolent abscess gathered in one of her breasts, and a week afterwards she complained of pain and swelling about her ankles. On examination, several tender and indurated nodosities were detected in the course of the superficial veins of both legs, below the knee, chiefly in the vicinity of the ankle. These were sufficiently raised above the surface to be visible in profile, surrounded by a circumscribed deposit of lymph, pitting upon pressure and marked by a trifling redness, which subsequently became slightly ecchymosed. This condition was unaccompanied by any febrile or constitutional disturbance; the nodules persisted and multiplied for some time, being aggravated by the least attempt at walking or even by allowing the feet to hang down. Rest and tonic treatment, with the application of tincture of iodine externally to the knots, at the end of six weeks, arrested the further development of these swellings, none of which

threatened suppuration or indeed manifested any signs of active inflammation. An indolent tumefaction continued to mark the seat of each tumor which appeared. These phenomena, constituting what is described by Cruveilhier as "adhesive phlebitis," are not of common occurrence, and, we are led to think, not really of the nature of phlebitis at all, but due rather to a stagnation of the blood, or, in other words, that they are "spontaneous thrombosis," in a remote part of the circulation, from sheer inability on the part of the heart to propel the blood through its entire circuit. The condition of our patient's pulse, which was very weak and small, the feebleness of her heart's action, her anaemic condition and generally impaired health, as shown by the felon and abscess, together with the extent to which she was upon her feet, justify this theory of the symptoms, especially in presence of a case like that which has served us as a text, and in the light of the discussion which is there elaborately entered into. It is difficult to imagine, in a subject like ours, that, had the symptoms been carried one degree further, much graver consequences would have been the result.

Occurring insidiously, in convalescents, or in delicate persons enjoying their usual degree of health, characterized by grave and sudden manifestations, the events liable to attend enfeebled action of the heart, whether from fatty or other degeneration, cannot be too frequently present in the mind of the physician or too earnestly brought to his notice.]

Proceedings of the Fifteenth Annual Meeting of the American Medical Association, held at New York, June 7th, 8th and 9th, 1864.

TUESDAY, JUNE 7TH—MORNING SESSION.

The Association met pursuant to regulations at eleven o'clock Tuesday morning, June 7, 1864, at Irving Hall, New York, and was called to order by the retiring President, Alden March, M.D., of Albany, supported by retiring Vice-Presidents, Dr. John Cooper of Delaware; Dr. David Prince of Illinois; Dr. C. C. Cox, Surg. U.S.V. The Secretaries, Drs. H. A. Johnson of Illinois, and Guido Furman of New York, were also present.

Prayer was offered by the Rev. Dr. De Witt of New York, after which Dr. James Anderson of New York, Chairman of the Committee of Arrangements, welcomed the delegates and members, and made the following report :

MR. PRESIDENT AND DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION—GENTLEMEN:—In the discharge of the duty devolved upon me as Chairman of your Committee of Arrangements, it affords me great pleasure on this, the fifteenth anniversary of the Association, in behalf of your committee as well as the profession in general, to extend to you a cordial welcome. This organization, whose germ was first developed in the Medical Society

of the State of New York, was perfected on the seventh of May, 1847, by the election of the venerable Dr. Nathaniel Chapman of Philadelphia as its first President, since which time its meetings have been held in nearly all the prominent cities of our country. Its sole object has ever been the elevation of the dignity and usefulness of the profession, in the endeavor to obtain which it becomes us individually as well as collectively, by our advice and example, to stimulate each other to higher attainments, and by our conduct to command respect. It is now eleven years since your last meeting in this city, around which occasion cluster many pleasant reminiscences, saddened only by the absence of some of the brightest names among your ranks, who have passed to their silent resting place—names which gave dignity to your body and wisdom to your counsels. Your Committee of Arrangements, in due time after their appointment in Chicago, organized and invited a representation from the hospitals, colleges, and medical societies of this city and Brooklin, for the purpose of eliciting a united expression and procuring a more extensive and general welcome to this national reunion, and have matured such plans as it is hoped will render your stay both instructive and interesting. Guide-books will be furnished to each delegate, with a programme comprising a variety of intellectual as well as social amusements. Among the institutions which have sprung up since your former visit may be noticed St. Luke's Hospital, on the Fifth Avenue, with a full and efficient medical staff; also a medieal college under the auspices of the Commissioners of Charities and Corrections, and in connection with the Bellevue Hospital and Alms-House; and in time, through the liberal bequest of the late Mr. Roosevelt, a third hospital will be added to the list. There is a feature, Mr. President, in your present assembling, of deep interest and solemn regret. I allude to that profound silence of several, and the diminished response of other States, which will appear upon the calling of the roll. It would not be proper on this occasion, nor becoming the circumstances under which I appear before you, to allude to its cause. Let us trust, however, that, through the interposition of an all-wise and overruling Providence, the time is not far distant when we may again offer to our alienated brethren the hand of professional fellowship which it is our privilege to extend to you this day. I again welcome you all to this metropolis.

On motion, the report was received and adopted. Dr. Anderson, on behalf of the Committee, suggested that the Asssociation should hold two daily sessions during Tuesday, Wednesday, and Thursday—one in the morning, from ten to half-past one o'clock P. M.; and one in the afternoon, from three o'clock until such time as was the pleasure of the body to adjourn. On motion, this suggestion was ordered to be embodied in the report.

Surg. C. C. Cox, U. S. V., moved that Surg. Charles S. Tripler, U.S.A., be invited to a seat on the platform.

It was then moved that the Association should take a recess of ten minutes for the purpose of affording an opportunity to the delegates to select the Nominating Committee, which was carried. After the lapse of the specified time, the Committee elected reported the following names :

J. C. Weston, Maine; Thos. D. Marshall, N. H.; J. N. Stiles, Vermont; Horatio R. Storer, Mass.; Johnson Gardiner, Rhode Island; E. H. Catlin, Conn.; Jas. P. White, New York; L. A. Smith, New Jersey; A. Nebinger, Penn.; F. E. B. Hintze, Md.; Henry F. Askew, Del.; B. B. Leonard, Ohio; Jas. F. Hibbard, Ind.; Wm. H. Byford, Ill.; S. G. Armor, Mich.; J. H. Bartlett, Wis.; A. E. McCurdy, Iowa; George W. Phelps, Mo.; Noble Young, D. C.; Thos. Antisell, U.S.A.; and Thos. L. Smith, U.S.N.

RETIRING PRESIDENT'S ADDRESS.

Dr. Alden March was next requested to read his retiring address as President of the Association. His subject had reference to the elevation of the standard of the profession by a thorough and proper medical education. After a few general and preliminary remarks, and the rehearsal of the views of many of those who had devoted considerable time and attention to the theme, he set forth its claims upon the consideration of the Association as a body, and urged the importance, in the first place, of a fitting preliminary education, as the grand foundation-stone upon which to rear the superstructure, and contended that every candidate for the honorary degree of Doctor of Medicine should be required to attend three full courses of lectures, instead of the two usually prescribed. If this plan were carried out, he had no doubt but that the time of study thus increased would afford the student an opportunity to digest more fully the great principles of our art as given to him in the lecture-room. Too many of our young men, in his opinion, were allowed to graduate, who for want of these very opportunities, suffered from a mental indigestion which troubled them more or less through their whole professional career, and prevented them from applying the great truths of science to every-day practice with that degree of satisfaction which was the only sure forerunner of advancement and success. If each course should only comprise a period of four months, he thought that the entire time of attending lectures, extending, as it should, over a period of three years, would be more than equivalent, in point of actual benefit to the student, to the ordinary two full courses of six months each.

Dr. Wilson Jewell, Pa., moved that a vote of thanks be tendered to Dr. March for his able and interesting address, and that he be requested to furnish a copy for publication.

The Association then adjourned till three P. M.

TUESDAY—AFTERNOON SESSION.

The Association was called to order by the President, after

which the minutes of the previous session were read by the Secretary. The names of registered members were next read.

OFFICERS FOR THE ENSUING YEAR.

The Nominating Committee then made the following partial report :

<i>President,</i>	N. S. Davis, of Illinois.
<i>Vice-Presidents,</i>	W. S. Mussey, Ohio.
	Worthington Hooker, Conn.
	William Wheelin, Ind.
F. E. B. Heintze, Md.	
<i>Secretary,</i>	Guido Furman, N. Y.
<i>Treasurer,</i>	Casper Wister, Pa.

The Committee recommended Boston, Mass., as the place for holding the next annual meeting.

Dr. Griscom, N. Y., moved that the report of the Committee be laid upon the table in order to discuss the following proposed amendments to the plan of organization :

1st. Providing for the appointment of one permanent Secretary.
2d. That the President and Vice-Presidents of this Association elected each year shall assume the functions of their respective offices at the beginning of the meeting of the year next succeeding their election.

This motion, however, was, after much discussion, finally lost.

Dr. Raphael, of New York, then moved that the report of the Nominating Committee be recommitted, with instructions that two Presidents be nominated instead of one, and that the one who should receive the majority of the number of votes cast should be declared elected.

A lengthy discussion then ensued as to the propriety of the measure, and it was eventually voted down.

The question for the adoption of the report of the Committee was next put and carried.

On motion of Dr. Griscom of New York, the President and Vice-Presidents were duly escorted to their chairs.

Dr. N. S. Davis, on assuming his duties as President of the Association, tendered his sincere thanks for the honor conferred upon him, and asked of the members their kind co-operation in his endeavors to perform the duties of his office.

The Chairman of the Committee of Arrangements stated that invitations were extended to the members to visit the following places : U. S. Navy Yard, Brooklyn ; Greenwood Cemetery, Brooklyn ; Collegiate and Polytechnic Institute ; Long Island College Hospital ; U. S. Naval Hospital, Brooklyn ; U. S. Soldiers' Depot, N. Y.

The following gentlemen were announced as members by invitation : Drs. Ed. M. Stein, G. R. Brush, P. H. Barton, D. McSweeney, H. H. Gregory, Elisha Harris, and B. Dewitt, Bradford Co., Pa.

The President appointed the following Committee to examine all voluntary communications : Drs. A. B. Palmer, H. F. Askew, S. G. Hubbard.

Dr. Cyrus Ramsay, N. Y., moved that the regular order of business be suspended, and that the proposed amendments of the Constitution be taken up. Which was carried, and the following amendment introduced :

Amendment of the Constitution in Relation to Permanent Secretary.

It is hereby ordained that Article 4, Sec. 1, of the Constitution be amended as follows : From the 2d line strike out the words "two Secretaries," and insert "one Permanent and one Assistant Secretary;" and in the 5th line after word "officer," insert the words "except the Permanent Secretary;" also add to the same section the following : "the Permanent Secretary shall hold his appointment for ten years, unless sooner removed by death, resignation, or a vote of two-thirds of the members present at a regular annual meeting."

And be it further ordained that Section 5 of the same article be stricken out, and the following substituted in its place, viz. : "The Permanent Secretary shall record the minutes and authenticate the proceedings, give due notice of the time and place of each next ensuing annual meeting; notify all members of Committees of their appointment and of the duties assigned to them; hold correspondence with other permanently organized Medical Societies both domestic and foreign; serve as a member of the Committee on Publication; see that the published Transactions are promptly distributed to all the members who have paid their annual assessment, and carefully preserve the Archives and unpublished Transactions of the Association.

The Assistant Secretary shall aid the Permanent Secretary in recording and authenticating the Proceedings of the Association; serve as a member of the Committee of Arrangements, and perform all the duties of permanent Secretary temporarily whenever that office shall be vacant either by death, resignation, or removal.

And be it further ordained, that Article 6, Section "second," be added after the word "meetings," in the second line, the following, viz. : "including the necessary expenses of the permanent Secretary in maintaining the correspondence of the Association."

After reading the amendments, Dr. Jewell of Pennsylvania moved to strike out from the last clause, "attending the regular meetings." Which motion was adopted.

Dr. Nebinger, Pa., moved to strike out the word "ten" in the second paragraph, and substitute "five." Which was lost.

Dr. Griscom proposed to strike out all that related to a specified term of years.

The previous question being called for and sustained, the amendment of Dr. Griscom was carried.

The question recurring on the adoption of the proposed amendments as amended, it was finally carried in the affirmative.

The Association then adjourned until ten A. M. of the day following, June 8.

During the evening the members were handsomely entertained at the residences of Drs. Jos. M. Smith, C. A. Budd, Isaac E. Taylor, Gurdon Buck, and Mayor Gunther.

WEDNESDAY, JUNE 8TH.—MORNING SESSION.

The Association was called to order by the President, N. S. Davis, at 10 A. M.

The minutes of the previous session were then read by the Secretary, Dr. Furman, and adopted.

The following gentlemen were elected members by invitation, and were requested to take seats on the platform: Drs. C. W. Stearns, N. Y.; C. C. Knight, New Haven; S. H. Casey, Oneonta; W. B. Southern, Mich.; Philander White, Oswego Co., N. Y.; F. L. Livingston, Barrett, Mass.; Jno. Green, Worcester, Mass.; — Noyes, Norwalk, Conn.; Thomas Cock, N. Y.

On motion, the following gentlemen were elected permanent members: Drs. Brown-Sequard, Boston, Mass.; John P. Gray, State Lunatic Asylum, Utica, N. Y.

The reports of the Standing Committee were next called for in regular order and referred to their appropriate sections.

TREASURER'S REPORT.

The report of the Treasurer, Dr. C. Wister, showed a balance on hand of \$449.02. Only about 120 copies of Volume xiv. have been sold during the past year.

REPORT ON COMPULSORY VACCINATION.

Dr. Jas. F. Hibbard, Chairman of the Committee on Compulsory Vaccination read a report in which it was contended that the adoption of the measure was impracticable, inasmuch as it was necessary for the people to be convinced of its utility and harmlessness before they would submit. They could be properly educated in this matter by the medical profession, who should act as a unit in recommending it under all circumstances. The Committee also recommended that the daily papers throughout the Union should be requested to ventilate the matter, and use every persuasion in their power to bring the public to a proper understanding of the power of vaccination in preventing the spread of small-pox. The report concluded with the following resolutions:

Resolved, That a committee of be appointed, to supervise and control under the direction of this Association, all matters pertaining to general vaccination.

Resolved, That a committee of be appointed in each State

to superintend the measure in its State, which committee shall be subordinate, auxiliary, and advisory to the Central Committee.

Signed,

JAS. F. HIBBARD, Chairman.

WILSON JEWELL,

JNO. H. GRISCOM.

Adopted, and referred to the section on Public Health

Dr. H. H. Childs, of Mass., was invited to take a seat on the platform.

MEDICINES AND SURGICAL APPARATUS FOR THE WOUNDED AND SUFFERING IN THE SOUTH.

Dr. A. K. Gardner, of New York, offered the following :

Whereas, It is the duty and great distinction of Christian nations, and in conformity with the highest instincts of humanity, to assuage the sufferings and mitigate the horrors of war in every possible manner, in which attempt the medical profession has ever been eminently conspicuous ; and

Whereas, The stringency of our blockade of the Southern coast has to a great extent deprived the sick and wounded, the feeble babe, the helpless woman, the aged man, as well as the sufferers by wounds and disease in the ranks of our enemies, of needful appliances to relieve pain and to save life ; and

Whereas, From the same cause thousands and tens of thousands of our own brave sons and brothers, fighting for the holy cause of our glorious Union, and left wounded on the battle-field in the hands of the enemy, have been compelled to have operations performed without the relief and benefit which chloroform would bring, and have lain in suffering unto death in the hospitals of the South from the absolute destitution of the country of many needful medicines and instruments of surgery ; and

Whereas, These articles are in no respect to be considered as among the "sinews of war," and, as has been seen, are not material to a vigorous prosecution of rebellious warfare ; and

Whereas, This association, numbering among its lawful members the medical men of the entire thirty-four States of the Union, we deem it eminently fitting that we should urge upon the Government and the people of the United States to remember the universal brotherhood of man and the undying attributes of humanity ; it is therefore unanimously

Resolved, That the Association request the President of the United States to take such action as shall cause all medicines and medical and surgical instruments and appliances to be excluded from the list of articles called "contraband of war," and that such articles in any quantity may be purchased by any person in any State of the Union, and may be conveyed beyond our lines under a flag of truce, after proper inspection, so as to give every necessary comfort to relieve any human suffering, whether of our own soldiers or that of the enemy.

Resolved, That a copy of the above Preamble and Resolution be sent to the President and Heads of Departments, and to each and every member of the United States Senate, and attested by the officers of this Association; and that every member be requested to use all the influence in his power in stripping this fratricidal war of some of its unnecessary horrors, and thereby to inaugurate the re-establishment of more kindly feelings, and to smooth away some of the obstructions to the reconciliation of our misguided brethren.

Resolved, That a Committee, representing every State of the Union here present, be appointed to present these resolutions to the President.

On motion, the consideration of the resolutions was indefinitely postponed.

INCREASE OF RANK AND PAY OF MEDICAL STAFF OF ARMY AND NAVY.

Dr. C. C. Cox offered a resolution to increase the rank and pay of medical officers of the army any navy.

Dr. Frank H. Hamilton urged the passage of the resolution by some well-timed and appropriate remarks, after which the question was put and carried unanimously.

The Chair appointed a Committee, composed of the following gentlemen, to report upon the same and prepare a memorial for the action of Congress:—Drs. McGugin, Iowa; Antisell, Washington, D. C.; F. H. Hamilton, N. Y., and Askew, of Delaware.

The Association then adjourned until 10 A. M. of Thursday, June 9.

The afternoon was occupied in the meeting of the different sections.

The entertainments for the evening were given by Drs. Willard, Parker, James Anderson, Alonzo Clark, and Jared Linsley.

THURSDAY—MORNING SESSION, JUNE 9.

The Association was called to order by the President shortly after 10 A. M. The Secretary then read the minutes of the previous session, which were, on motion, adopted.

Surg. C. C. Cox, the Chairman of the Committee appointed to memorialize the President of the United States in reference to the increase of rank and pay of medical officers of the army and navy, moved that Dr. Charles S. Tripler be added to that Committee, and be appointed the Chairman of the same. Carried.

Dr. Moran, R. I., called the attention of the Association to the prizes offered by the Rhode Island Medical Society, and stated that they were two in number, one hundred dollars each, and were open to the competition of all.

TIME OF NEXT MEETING.

On motion of Dr. Askew, of Delaware, it was agreed that the

time for the next meeting of the Association should be on the first Tuesday of June, 1865.

REPORTS OF STANDING COMMITTEES.

The reports of the Standing Committees were again called for, with the following results :

Committee on Insanity.—Dr. R. Hills, of Ohio, the Chairman of the Committee, in a note addressed to the Association, reported progress, and asked for further time, promising an elaborate report if such a privilege were granted.

It was then carried that the time should be extended ; and on motion of Dr. Griscom, Dr. E. H. Van Duser, the Medical Superintendent of the State Lunatic Asylum, Kalamazoo, Mich., was added to the Committee.

Committee on Prize Essays.—The Chairman of the Committee not being present, the calling for the report was deferred.

REPORTS OF SECTIONS.

Dr. S. W. Butler, of Philadelphia, the Chairman of the Section on Medical Topography and Epidemic Diseases, presented a report, which was adopted in full, and the following gentlemen were appointed as members of the Committee to carry out the spirit of the resolutions appended to the report of the Committee on Compulsory Vaccination :—Drs. A. N. Bell, Brooklyn; J. P. Loines and H. D. Bulkley, N. Y.; A. Nebinger, Philadelphia; and J. F. Hibbard, Indiana.

The Section on Surgery and on Practical Medicine and Obstetrics made no report at this period of the proceedings.

REPORT ON THE PRACTICAL WORKINGS OF THE U. S. LAW RELATING TO THE INSPECTION OF DRUGS AND MEDICINES.

Dr. Squibb, the Chairman of the Committee on the Practical Workings of the U. S. Drug Law, made a statement to the effect that the gentleman who composed that Committee could not agree upon the report prepared for their action ; and inasmuch as at the time it was presented for their consideration there was not opportunity for an interchange of views upon the subject, they respectfully requested that, as a Committee, they should be discharged.

On motion of Dr. Gardner, the report of the Committee was accepted and the Committee discharged.

Dr. Squibb then proceeded, by invitation, to present his views upon the subject, in the form of a voluntary communication. He contended that the practical working of the law was to all intents and purposes a dead letter, and that the Secretary of the Treasury had not acted upon the earnest solicitations of the Committee from the different Societies and Colleges in New York who had been appointed to memorialize him upon the subject, but had made an appointment without qualifications, which could be ascertained at the time, or which have since been manifested in the duties of the

office, since drugs of very inferior quality were constantly passed through the Custom House. As an example he instanced several articles, among which were those of jalap and scammony, which were, on examination, found to contain a very small per cent. of active principles—much below that which the law prescribed. He threw out the suggestion that, considering the facts of the appointment of the present inspector, it would be of little use to make any further requests to the appointing power.

In conclusion, he stated that he alone was responsible for the statements contained in the paper, and that Dr. Bowditch, one of the Committee, declined to sign a report which he considered of a partisan character, reflecting upon the officers of the General Government at the present time. Dr. Carson, the other member of the Committee, did not wish, as a matter of principle, to sign a paper until he was satisfied, from personal observation, that all the statements therein contained were correct.

After some discussion, the report of Dr. Squibb was accepted, after which

Dr. S. R. Percy, of New York, remarked that Dr. Squibb had labored under a false impression in making the statements contained in the paper; and further stated that the appointment of Drug Inspector was made by Secretary Chase in perfect good faith, and with the conviction that it would meet the end for which such an appointment was designed. That gentleman had made diligent search for the right man, and, as the result of very numerous recommendations from reliable men of the profession, had selected the present incumbent. Concerning the honesty of the present Inspector, Dr. Percy was prepared to vouch, from a personal knowledge of that gentleman's character, and he could confidently assert that every endeavor had been made to discharge the duties of the responsible office with fidelity. Every specimen that it was possible to examine was carefully examined before it was allowed to pass, and he could not conceive upon what foundation Dr. Squibb had made his assertions. In conclusion, he did not think it came within the province of the Association to indorse any stigmas made against any one; and as a friend to the Inspector, he felt that it was his duty publicly to defend him.

Dr. Squibb remarked that he was not acquainted with the Inspector, and did not allude to any one by name, but he merely had presented facts which came to his knowledge, leaving the members to draw their own inferences. He only referred to the two articles, scammony and senna, stating that he had examined specimens of the former article, which contained as low as 15 per cent. of active principle, instead of 70; and of the latter article, which contained from 10 to 55 per cent. of sticks and stones, and which in that condition had passed the Custom House.

A motion was made to refer the paper to the Committee on Publication, with discretionary power, which was lost.

Dr. Curry, of Westchester county, spoke at some length against

the general practice of referring papers to the Publishing Committee, urging, as an argument against it, that many communications would find their way into the volume which would not be entitled to it, and thought that the Committee should have ample discretionary power in the matter. He did not wish it to be understood that his remarks referred to Dr. Squibb's paper, but only wished the principle of the thing to be discussed.

The President stated that the discretionary power belonged to the section to which any paper might be referred, and suggested the propriety of referring Dr. Squibb's paper to the Section on Chemistry.

Dr. McFarland, New York, thereupon made a motion to refer it to that section, which was carried.

REPORT OF SECTION ON PRACTICAL MEDICINE AND OBSTETRICS.

Dr. Storer, Boston, read a report of the meeting of the Section held the afternoon before, and concluded the same by presenting the following resolutions, which were appended to his paper, and which we have already alluded to :

Resolved, That in the opinion of the American Medical Association it is expedient that there should be attached to every public hospital for the insane, one or more consulting physicians, whose appointment should be honorary, and who may be consulted at the discretion of the superintendent, such measure being alike for the interest of the hospital, its medical officers, and its patients.

Resolved, That a copy of the above resolutions be transmitted to the Board of Trustees of each of our public hospitals for the insane, and also to the Secretary of the Association of American Superintendents for the Insane, and request that it may be indorsed by that body, the action proposed being upon the respective boards with which its members are officially connected.

Dr. Griscom contended that the Association, by passing these resolutions, would prevent any medical man who should be so appointed from receiving any remuneration. He thought that the physician should be paid for his services, if he chose to make an arrangement to that effect with the managers of the institution ; but if he was disposed to accept it as an honorary position, the matter was of course only a personal one. These being his views, he moved that the clause, "whose appointment should be honorary," be stricken out.

Remarks were made endorsing Dr. Griscom by Drs. Gardner, New York, McCarthy, Illinois, and others.

The amendment was then carried, after which the resolutions were passed upon as a whole.

The report of the Section was also adopted.

THE COMPLETION OF THE REPORT OF THE NOMINATING COMMITTEE.—ELECTION OF A PERMANENT SECRETARY.

Before the reading of the report of the Nominating Committee,

Dr. Griscom obtained permission to make a few remarks upon the duties which should be required of the Permanent Secretary. He considered that it was of the utmost importance that the right man should be selected for the performance of duties which involved so great responsibilities. He contended that such an officer of the Society should hold regular correspondence with all the members and with all the different Societies throughout the country; that he should attend every meeting; should procure a systematic reduction of fare over the different railroad lines communicating with the city in which the meeting is held; that he should give his personal attention to the sale of the Transactions, and use every endeavor to advance the interests of the Association. Such a man, in his opinion, could only be obtained by proper remuneration, and he therefore moved the adoption of a resolution to the following effect:

Resolved, That the Permanent Secretary shall be entitled to the compensation of — dollars per annum, payable out of any surplus funds of the Association after all other claims for each current year shall be paid.

Considerable discussion here followed as to the propriety of adopting the resolution, and the amount of remuneration to be offered, when it was finally agreed to lay the matter on the table.

COMPLETION OF REPORT OF COMMITTEE ON NOMINATIONS.

The Committee on Nominations then presented the completion of their report, as follows:

Committee on Exsection and its Connexions with Conservative Surgery (enlarged)—Drs. Sayre, N. Y.; G. W. Morris, Pa.; G. C. Blackman, Ohio; H. S. Tewksbury, Me.; E. Andrews, Ill.; Geo. B. Twitchell, N. H.; J. C. Hughes, Iowa; G. Clymer, U. S. N.; J. R. W. Dunbar, Md.; R. H. Gilbert, U. S. A.

On Drainage and Sewerage of Large Cities and their influence on Public Health.—Drs. W. J. C. Duhamel, D. C.; E. C. Baldwin, Md.; Cyrus Ramsay, N. Y.

On Alcohol and its Relations to Man.—Dr. G. E. Morgan.

On Microscopic Observations in Cancer-Cells.—Leonard J. Sandford, Conn.

On Quarantine.—(Continued.)

On Medical Ethics.—Drs. J. Murphy, Ohio; M. L. Linton, Mo.; B. F. Schenck, Pa.; Swain Wickersham, Ill.; A. J. Fuller, Me.

On the Microscope.—Dr. Jas. M. Corse, Pa.

On Relations which Electricity sustains to the Causes of Disease.—Dr. S. Little, Pa.

On the Morbid and Therapeutic Effects of Mental and Moral Influences.—Dr. A. B. Palmer, Mich.

On the Cause of Extinction of the Aboriginal Races of America.—(Continued.)

On the Causes and Treatment of Un-united Fractures.—Dr. F. H. Hamilton, N. Y.

On Diphtheria.—Dr. Lucius Clark, Ill.

On the Uses and Abuses of Pessaries.—Dr. Jas. B. White, N. Y.

On International Medical Ethics.—Drs. J. Baxter Upham, Mass.; R. Thompson, Ohio; G. Shattuck, Mass.; G. C. E. Weber, Ohio.

On Climatology and Epidemic Diseases.—Drs. C. W. Parsons, R. I.; P. A. Stackpole, N. H.; T. M. Logan, Cal.; R. C. Hamill, Ill.; J. C. Weston, Me.; B. H. Catlin, Conn.; C. L. Allen, Vt.; T. Antisell, Washington, D. C.; J. W. H. Baker, Iowa; Abraham Sager, Mich.; O. S. Mahon, Md.; J. W. Russell, Ohio; D. F. Condie, Pa.; H. Townsend, N. Y.

On Autopsies in Relation to Medical Jurisprudence.—Dr. T. C. Finnell, N. Y.

On so-called Spotted Fever.—Dr. J. J. Levick, Pa.

On the Introduction of Disease by Commerce and the Means for its Prevention.—Dr. A. N. Bell, N. Y.

Permanent Secretary American Medical Association.—Dr. Wm. B. Atkinson, of Philadelphia.

Assistant Secretary.—Dr. H. R. Storer, Assistant Secretary.

On Patent Rights and Medical Men.—Drs. David Prince, Ill., Thos. Antisell, D. C., and Stephen Smith, N. Y.

The report, after much discussion in relation to the election of the Secretary, was finally adopted.

It was moved that a committee be appointed to report at the next meeting on the Ligature of the Subclavian Artery. Adopted, and the following gentlemen selected as that committee: Drs. Willard Parker, N. Y., Armsby, Albany, Norris, Philadelphia, and Mussey, Cincinnati, O.

REPORT OF PRIZE COMMITTEE.

The prize was awarded to Dr. S. Fleet Speir, for an Essay on the Pathology of Jaundice.

The Association then adjourned until four P. M.

THURSDAY, JUNE 9.—AFTERNOON SESSION.

The Association was duly called to order by the President.

The Chairman of Arrangements announced the following members by invitation: Drs. Barent Staats, Albany State Medical Society; E. M. Hunt, State Medical Society, New Jersey; H. C. Geely, Indiana.

Dr. C. C. Cox submitted the following resolutions:

Resolved, That a committee of three, consisting of Dr. T. L. Smith, of New York, Dr. Wilson Jewell, of Pennsylvania, and Dr. B. F. Bache, U. S. N., be appointed to memorialize Congress upon the subject of the attempted wrong to the Medical Corps of the Navy, as indicated by a widely circulated protest of the line officers of that branch of the service, against the very moderate increase of rank given to medical officers by a General Order of the Department of the 13th March, 1863, which increase in rank

by no means corresponds in extent to the advancement in rank of the officers of the line thus protesting.

The following resolutions were also offered and adopted.

By Dr. Raphael, N. Y.:

Resolved, To amend the fourth article of the Constitution so as to insert after the word ticket (fifth line) the words "except in case of the President, who shall be nominated and elected by ballot in open session of the Society, the member receiving a majority of all the votes cast to be declared elected."

Dr. Duhamel, Washington, D. C.:

Resolved, That the members of the American Medical Association tender their thanks to the gentlemen of the medical profession of the city of New York, for the hospitality and civilities extended to them during their stay here.

Resolved, That we also tender our thanks to Mayor Gunther and the gentlemen of the public institutions, who have extended to the members of the Association much kindness and attention.

Dr. McGugin:

Resolved, That the committee appointed for the purpose of drafting a suitable bill to be presented to Congress for its consideration and adoption on the subject of the relative rank of medical officers of the army be, and they are hereby instructed to embrace in its provisions a further separation of the Medical Department from the commanding officers of the line, in order to have a more perfect and unrestrained control of its interests and greater efficiency in that branch of the service.

Also by Dr. McGugin:

Resolved, That each member of the Association is hereby earnestly requested to furnish to the Chairman, or any member of the Standing Committees appointed to report upon the subject assigned them, at the next annual meeting, all facts in his possession, and his experience touching the subject matters upon which said committee are required to report.

Dr. Palmer, Mich.:

Resolved, That, as the representatives of the profession of the country, meeting at the moment when the greatest military collision of modern time is at its acme, producing almost unprecedented numbers of wounded and suffering men, calling for the greatest skill and devotion, imposing the deepest responsibilities, the most intense labors, and the most patient and painful endurance on the part of the military surgeons, we cannot separate without a formal and heartfelt recognition of the services of our brethren in the field and hospitals, who have been and are at this moment so nobly responding to all these demands—and while cherishing their immense and invaluable services as an honor to our profession, we commend these men and the memory of their deeds in the cause of science and patriotism, of civil government, of Union, of liberty, of humanity, to the gratitude of the country, whose life as well as that of their heroic patients they are laboring to preserve.

THE SUBJECT OF SPECIALTIES.

Dr. Homberger, N. Y., offered a resolution for adoption, which had reference to defining the relations which should exist between specialists and general practitioners of medicine, and moved that the Association, in order properly to consider the matter, should resolve itself into a Committee of the whole.

The resolution was favored by Drs. Elsberg and Gardner, N. Y., Storer, of Boston, and others; but was lost, and a motion prevailed to lay it on the table and have a special committee of five appointed to report at next meeting.

The usual resolutions of thanks to the President, Secretary, Committee of Arrangements, and others, were passed without comment.

CONCERNING DR. MORTON, THE ALLEGED DISCOVERER OF ETHER.

Dr. Henry D. Noyes, delegate from the New York Eye Infirmary, offered the following resolution:

Whereas, There is now pending in Congress an appropriation donating to Dr. T. G. Morton, of Boston, the sum of \$200,000, for his services in connexion with the introduction of sulphuric ether as an anaesthetic agent; and

Whereas, The said Dr. Morton, by suits against charitable medical institutions for infringements of an alleged patent covering not only sulphuric ether, but the state of anaesthesia however produced, has placed himself beyond the pale of an honorable profession and of true laborers in the cause of science and humanity;

Resolved, That the American Medical Association enter their protest against any appropriation to the said Dr. Morton, because of his unworthy conduct, also because of his unwarrantable assumption of a patentable right to anaesthesia, and further, because private beneficence in Boston, New York, Philadelphia, and other places, has already sufficiently rewarded him for any claims which he may justly urge.

Resolved, That a copy of these resolutions be sent to the Chairman of the Committee of Ways and Means in the House of Representatives at Washington.

Adopted.

Dr. Raphael, of New York, believed that Dr. Morton was generally conceded to be the inventor of anaesthesia, and as such should receive a due amount of credit and emolument. If Congress thought best to vote that amount of money to the Doctor it had a perfect right to do so, and it was no business of the Association to interfere. He hoped that the resolution would not pass.

(Loud calls for question! question!)

Dr. Moran, of R. I., moved the adoption of the resolution, which motion was carried with but two or three dissenting voices.

The reports of the several Sections were on motion adopted.

Some unfinished business of minor importance was then disposed of, after which the Association adjourned to meet in Boston the first Tuesday in June, 1865.

On Thursday evening the members visited the house and laboratory of Dr. Squibb, in Brooklyn, and were elegantly entertained. Notwithstanding the inclemency of the weather a large number were present.

On Friday, those of the delegates who remained in town accepted the invitation of the Commissioners of Charity to visit the different institutions under their charge, and on Saturday the invitation of Mr. McDougal, Medical Director, Department of the East, was accepted to visit the Military Hospitals at David's Island, N. Y.

THE MEETINGS OF THE SECTIONS.

The afternoons of Wednesday and Thursday were devoted to the meeting of the different sections of the Association.

Surgical Section.

WEDNESDAY, 3 P. M.

The section assembled at three p. m., and elected Dr. A. Van Dyck, of Oswego Co., Chairman, and Julius Homberger, N. Y., Secretary.

Dr. Gurdon Buck, N. Y., exhibited his case of autoplastic operations of the face, with which our readers are already familiar. Dr. B. stated, at the conclusion of the presentation, that the case had already been presented to the Medical Society of the State of New York, and was to be published in the Transactions of that body for 1864.

On motion, a vote of thanks was tendered to Dr. Buck for the exhibition of his very interesting and instructive case.

TREATMENT OF CONGENITAL CLEFT PALATE BY MECHANICAL APPLIANCES.

Dr. Kingsley, N. Y., read a paper on "The Treatment of Congenital Cleft Palate by Mechanical Appliances," in which he assumed the following positions, viz.: "1st. The only necessity of operating at all is with a view of improving articulation." "2d. The operation of staphyloraphy in all decided fissures of the velum is without material results in benefiting the speech." "3d. The only treatment now known which can produce this result is the filling of the fissure with an elastic mechanical appliance." This artificial velum is made of vulcanized rubber, and so formed as to restore as nearly as possible the natural shape of the hard and soft palate, reaching the whole length of the opening, terminating near the fauces. It is so flexible that it may be carried in

any direction the muscles act upon it, and so elastic as to regain its position as soon as the muscles are relaxed; and to the eye of the physiologist seems to perform as nearly the function of the natural velum as could be expected of any piece of mechanism. The exhibition of the practical application of this velum in the mouths of patients present elicited the admiration of all who witnessed it, and certainly proved that it was all that was claimed for it. The application of this artificial palate renders it possible for a person suffering from this defect to learn to speak well.

The Paper was referred to the Committee on Publication.

Dr. Mussey, Ohio, differed with Dr. Kingsley as to the effect which the division of the muscles had upon the speech, and related three cases upon which he had operated by that method with success.

Dr. Raphael, N. Y., had seen a number of cases in which such an operation had been performed, but in none of these had the speech been at all improved.

Dr. Buck stated that he had operated upon quite a variety of cases of cleft palate, but he had not met with that success which Dr. Kingsley had by the employment of the vulcanite apparatus already alluded to.

Dr. Homberger, N. Y., asked if any of the members had operated upon cases of cleft palate by Langenbeck's method.

Dr. Post, N. Y., remarked that in his cases of staphyloraphy he had endeavored to raise as much of the soft parts from the bone as it was possible to, and supposed that he had raised the periosteum also.

The Paper was then referred to the Publishing Committee.

NEW SYRINGE FOR INJECTING THE LACHRYMAL DUCT.

Dr. McFarlan, N. Y., exhibited a new syringe for the treatment of the diseases of the lachrymal duct, and read a discription of the instrument. It is composed of a silver canula the thickness of an ordinary probe; the whole is adapted to a small gutta-percha syringe with the capacity of about thirty or forty drops. The tube joins the syringe at a given angle, in order to facilitate its adaptation to the duct into which it is to be introduced. He thought it particularly advantageous in the treatment of that condition of the canal which often remains after a pre-existing stricture has been fully dilated. Under such circumstances there was present a muco purulent discharge, which was often, by the use of other measures, inclined to be very obstinate and long continued.

Dr. Homberger stated that his experience had taught him that, after the stricture had been fully dilated, the discharge which had before existed, and which was coincident with that condition, disappeared entirely.

Some discussion here followed bearing principally upon the practicability of injecting the sac, and was partaken in by Drs. Homberger, McFarlan, Hutchison, and others.

The section then adjourned until three P. M. on Thursday.

Section on Meteorology, Medical Topography, Epidemic Diseases, Medical Jurisprudence and Hygiene.

WEDNESDAY 3 P. M.

The section was organized by the election of S. W. Butler, of Pennsylvania, Chairman, and A. N. Bell, of New York, Secretary.

The first business in order was the consideration of Reports of Committees. Dr. Hibbard submitted a report on Compulsory Vaccination, and reported a series of resolutions, which, after being amended, were adopted as follows:

Resolved, That this Association deems it a duty to institute measures looking to the vaccination, ultimately, of every person within the limits of country over which it exercises jurisdiction.

Resolved, That a Central Committee of five be appointed to enlighten the public mind, by all available means, upon the value and necessity of universal vaccination.

Resolved, That the Central Committee be authorized to appoint Associate and Auxiliary Committees in each State.

The adoption of the Report being in order, after much discussion and some modification, it was voted to refer the Report and Resolutions to the Association for publication in the Transactions.

The Report on Military Hygiene was submitted by Dr. Andrews, of Illinois, limited, however, in its scope to the Hygiene of Military Hospitals.

On motion, it was voted that the report be referred back to the Association for publication in the Transactions.

A voluntary communication on the Physiological and Dietetical Properties of Phosphorus was read by Dr. John H. Griscom, of New York.

After a detailed exposition of the extent and amount in which this substance is found in the various tissues, fluids, secretions, and excretions of the body, there being scarcely one in which it is not a constituent, whereby its importance is properly inferred—the practical application was made of the influence of a deficiency of phosphorus in a variety of diseases of the osseous, nervous, muscular, digestive, and respiratory organs. Scurvy, resulting from too free use of salted food, was shown to be probably due to the loss of phosphates, which Liebig has proved to be removed by the salt, and is found in the brine. Fresh meat, as well as fresh vegetables, proves to be an antiscorbutic, doubtless in both cases on account of the phosphoric acid. It was further shown that modern modes of preparing food of several kinds deprived it of this element to a large extent, to which many evil results are attributable. Especially is this the case with that “life-preserved of the world”—the wheat grain. By the bolting process, 1400 per cent. of this element is lost. Several specimens of *Farina Coccido*, or roasted wheat, as extensively used in South America, were presented to the section, and highly commended as substitutes for

superfine flour, retaining as they do all the phosphatic matter of the grain. The paper elicited many favorable remarks, and was unanimously recommended to the Association for publication in the Transactions.

Dr. Ramsay, of New York, submitted a table of sanitary statistics, etc., which, on motion, was referred to the Association with the recommendation that it be referred to the Committee on Publication, with power.

Adjourned till Thursday, 3 P. M.

Section of Practical Medicine and Obstetrics.

WEDNESDAY AFTERNOON.

Prof. B. Fordyce Barker, of N. Y., was elected Chairman, and Dr. Storer, of Boston, Secretary.

THE USE OF THE PESSARY IN PROLAPSUS UTERI.

The meeting being organized, and ready for the transaction of business, Dr. Gardner, of N. Y., read a paper on "The Use of the Pessary in Prolapsus Uteri." He took strong grounds against its use, advocating that it is not only of no avail but absolutely injurious, by inducing irritation to the vagina, etc.

Dr. Storer, of Boston, rose and spoke against the argument presented, stating that he had found the pessary of great value in these cases, and cited instances in which it had proved very beneficial.

Dr. Peaslee, of N. Y., also opposed the views of the author, and thought him too general in his statements.

Dr. Hancock, of N. Y., endorsed the views of Dr. Gardner, and by him a motion was made to refer the paper to the committee of Publication.

Dr. Mendenhall, of Cincinnati, hoped the organization would not adopt the views set forth by the author.

Dr. Gardner said it mattered not so much whether his remarks were all true or all not true; he would like them to have publicity, that the profession might be led to give the subject their serious consideration.

Dr. Toner thought the Association should publish nothing except what had the sanction of the majority of delegates.

Dr. Storer objected to this view of Dr. Toner, and thought the publication of new theories the only sure way to advancement.

A vote was taken on referring it to the committee of Publication, and carried in the affirmative.

Dr. Levick was next introduced, and read an article on "Spotted Fever," as regards the propriety of calling it "*Cerebro-Spinal Meningitis*." He very clearly discussed this point, and showed that it is a *general* and not local affection, and that the cerebro-spinal meninges are not always affected, but that the *lungs, stomach,* and other organs may be diseased as well. He cited a case of a rugged woman who took it in a well marked form, and died in

twelve hours ; and on a post-mortem examination, the brain and spinal cord were each found to be in a normal condition, while the lungs and other organs were in a state of echymosis. Thinks the term "cerebro-spinal meningitis" no more appropriate than to name a genus from one of its species. The term "*spotted fever*" is characteristic and should be retained, though "*malignant influenza*" would be appropriate. Thought the name important, as it had a bearing on the manner of treating it, which he spoke of in a general manner.

Dr. Lyman, of N. Y., concurred in the remarks just made, and thought the views entertained by the author correct, and moved their acceptance.

Dr. Fisher, of N. Y., requested that, as the author has already been over this subject, he be invited to furnish the literature of the same, with his mode of treatment, etc.

Dr. Hooker, of New Haven, was convinced that not only the "members with grey hairs," but the students coming on, would be benefitted thereby.

Dr. Grantz wished to call on Dr. Lyman for the plan of treatment he had spoken of, which was briefly given.

Dr. Levick rose and said he was thankful to the gentlemen of the "section" for their kind reception of his remarks, and stated that his treatment had been quinine and brandy generally ; and was of the opinion (though without experience) that turpentine would be beneficial.

Dr. McArthur, of Illinois, stated cases in which it appeared plain that the disease was due to *miasmatic* influences, and cited instances of a sugar distillery appearing to give rise to it.

Dr. Crittenden, of N. Y., thought no regular course of treatment could be pursued, owing to the different phases presented, etc.

Vote taken and carried to refer the paper to the committee of Publication.

Dr. Storer next presented an article entitled "The Relation of Female Patients to Hospitals for the Insane ; the Necessity, on their Account, of a Board of Consulting Physicians to every Hospital." He gave a clear and interesting account of the manner in which these hospitals are usually conducted, showing that all the responsibility rests upon the medical superintendent in charge ; and thought these females, inasmuch as their insanity is often due to menstrual derangements, should have the benefit of medical advice. He thought the Butler Hospital a model institution in this respect, and hoped this Association would take measures to correct this present existing and unphilanthropic evil, and closed his remarks by offering a resolution in substance (though not in words) as follows :

Resolved, That for each hospital for the insane females, a competent physician be appointed, whose office shall be honorary, to be consulted respecting such females, etc.

Dr. Gardner heartily endorsed the views of the author, and moved they be accepted and referred to the committee of Publication.

Dr. Griscom objected to the part of the resolution offered, making the appointment simply an honorary one, and thought that the physician should be paid for his services if doing public service.

Dr. Green, of Mass., also favored the honorary appointment, and was followed by different members on each side. After a vote to strike out the clause making it "honorary," which was lost by 21 to 22, it was voted to be accepted by the "Section," to be adopted by the Association, and handed over to the committee of Publication.

An adjournment was then moved and carried, to meet again at same place to-morrow at 3 o'clock P. M.

THURSDAY AFTERNOON.

The Section was called to order by the Chairman.

Dr. Sands read a paper by Dr. H. O. Hitchcock, of Kalamazoo, Mich., upon a case of death from entrance of air into the uterine cavities. We hope to be able to furnish our readers with an abstract of the same at some future time. On motion, it was referred to the committee on Publication. There being other business for transaction, and the time for adjournment having arrived, it was voted to hold another meeting at 8 P. M.

Section on Hygiene, Etc.

THURSDAY AFTERNOON.

Dr. Jonathan Kneeland, of N. Y., presented a voluntary report on some of the causes promoting the extinction of the Aborigines of America. This paper points out graphically the manifold evils which are surely moving onward towards their certain doom, the Onondagas, one of the six nations of American Indians. The power of syphilis, scrofula, and the vices of civilization, engrafted upon the improvidence of barbarism, are set forth, and the physical peculiarities of this strange people are ingeniously pointed out.

The report was, on motion, referred to the Association, with the recommendation that it be sent to the committee of Publication for publication in its Transactions.

Dr. Thompson, of Ohio, Chairman of the committee on Milk Sickness, presented a report, which, on motion, was also referred to the Association for publication.

Dr. Charles W. Parsons, of Rhode Island, presented a Special Report on the Medical Topography and Epidemic Diseases of Rhode Island, which, on motion, was referred for publication. On motion, the section adjourned.

Section on Materia Medica.

THURSDAY AFTERNOON.

At the meeting of the Section of Chemistry and *Materia Medica* held at 3 p. m., Thursday, Dr. Griscom, of N. Y., was elected Chairman, and Dr. Jas. Hart Curry, of Westchester Co., Secretary.

Dr. McGowan, of Washington, D. C., presented, through Dr Griscom, a communication upon "The Introduction and Cultivation of the Cinchona Plant into the Island of Hayti."

Referred to committee of Publication.

Dr. E. R. Squibb presented his paper from the committee upon the Practical Working of the U. S. Law, "To prevent the importation of Adulterated and Spurious Drugs and Medicines."

The paper was discussed by Drs. Percy, Squibb, Mussey, Brown, of Providence, and Hutchinson, N. Y.

Dr. Hutchinson moved to refer to the Association with a recommendation that it be published.

On motion, an amendment was proposed of striking out certain parts of the report in conclusion relating to personalities, which was lost, and the original resolution carried.

The Section then adjourned.—*Amer. Med. Times.*

Absorption of Dead Bone.

Dr. W. S. Savory read a paper (Feb. 23, 1864) before the Royal Medical and Chirurgical Society. The question he stated, whether dead bone can be absorbed, still awaits a satisfactory answer. For while careful and accurate experiments have furnished only negative results, there are unquestionable facts which compel us to admit the possibility of the occurrence. One all important consideration seems to have been hitherto neglected in the inquiry—the influence of pressure in determining the result. Thus, in the experiments which have been performed on the subject, and which have naturally led to the conclusion that dead bone may be kept amidst living tissues for weeks or months without losing the merest fraction of its weight—in these experiments the dead bone was kept in simple contact only with the living parts. It appears that no considerable pressure was maintained. Whereas when ivory pegs are driven into bone, extreme pressure is of course produced. In order to test this view, some experiments were performed, which are related in the paper. It appeared to the author that the only explanation which can be offered of the results of these several experiments is, that the absorption of dead bone, when in contact with living bone, is determined by the pressure to which it is subjected.

Mr. Hilton said the profession ought to feel obliged to Mr. Savory for having adduced by well-considered and well-arranged experi-

ments such conclusive evidence of the absorption of dead bone by the surrounding tissues—a fact not usually admitted by surgeons. He (Mr. Hilton) had several times noticed, on looking at two ivory pegs which had been used in the same case of ununited fracture, and apparently under the same conditions, that the surface of one of them was partially absorbed, while the other did not manifest any loss of substance—a difference hitherto inexplicable, but now elucidated by the author's paper, as depending upon the variable pressure to which they had been subjected. An interesting point, however, presented itself for consideration to which the author had not made any reference—viz: what was the amount and duration of pressure required to induce this absorption? for dead bone was often seen buried within granulations which were undoubtedly capable of exerting much pressure without the slightest appearance of any absorption having occurred. For instance, in the case of an amputation through the femur, the same end of the bone may come away necrotic after several months' subjection to the pressure of muscles, fascia, granulations, bandaging, and strapping, yet the track of the teeth of the saw used at the amputation would be seen as cleanly cut and as sharply defined as on the day of the original operation. The same kind of facts was quite as discernable in cases of compound fracture of a long bone, where the fractured end of bone, although surrounded deeply by granulations and new bone during several months, would present the sharp, well-defined edge of the fracture as evidently as on the day of the accident, uninfluenced by the pressure of any of the surrounding living tissues. Mr. Hilton had removed from the leg several portions of a comminuted compound fracture of the tibia eight years after the accident and seven years after the closure of the external wound, and upon two of them the well-defined edge of the original fracture was obvious and markedly different from the serrated edge observable where the piece of bone had been separated from the living bone by the slow process of absorption. Mr. Hilton would suggest to the author the inquiry as to how or by what combination of minute events does pressure contribute towards the absorption of the dead bone, because the pressure in his (Mr. Savory's) experiments was made equally on both the living and dead bone. No doubt such an investigation could not be placed in better hands than Mr. Savory's.

Mr. Savory said he had considered it best in the paper simply to demonstrate the fact that the absorption of dead bone is determined by the pressure to which it is subjected. In working at the matter, of course he had thought of the nature of the influence thus exercised, but he did not consider any opinion which he might have formed on the subject worth expressing. The question was not in relation to the absorption of bone, whether living or dead, but to the effect of pressure on the absorption of dead bone. With respect to the case Mr. Solly mentioned, it was not enough to show that dead portions of bone bore evidence of having been partially absorbed: it must be shown that such absorption occurred after the death of the bone, and thus independently of all pressure. Mr.

Savory defended the use of the word "absorption." He had not employed the term without foreseeing the objection that might be urged against it; and so he had been careful to relate how, in some of the experiments, the wounds at once closed, and completely healed without any discharge or other means by which disintegrated fragments of bone might have escaped. Moreover, if the preparations were examined it would be seen that, in some of them, the portions of dead bone which had been removed could not have escaped, for the holes were tightly plugged by the pegs which had been driven in. With reference to the destination of the bone which disappears in disease, Mr. Savory thought that the evidence advanced to prove that this is always disintegrated and cast out, was unsatisfactory and inconclusive. Of course, in some forms of ulceration of bone, as in phagedenic ulcers of soft parts, disintegrating fragments might perish and escape; but in other less destructive forms of ulceration bone might disappear through absorption. Much had been made of the fact that the discharge from carious bone contains an unusual abundance of phosphate of lime, this being supposed to represent the dissolved osseous tissue. But while, on the one hand, this would prove too much, the proportion of bone which disappears not being equal to the quantity of phosphate of lime discharged, on the other hand, a better, a more philosophical explanation of the fact might be given. As in health each part assimilates to itself from the blood its own proper constituents, so in abnormal forms of nutrition it was reasonable to believe that the material furnished by different structures would present characters of composition more or less corresponding with those of the tissue whence it proceeded. Be this as it might, however, in some at least of the experiments described there was no means by which the portion of bone which had disappeared could have escaped externally.—*Med. Times and Gaz.*, March 5th, 1864.

*New Operation for Obtaining Union of an Ununited Fracture,
with Remarks on its Application in Certain Cases of Recent
Fracture.*

Mr. E. R. Bickersteth, in a communication made to the Royal Medical and Chirurgical Society (March 8, 1864) stated that in bringing this subject before the attention of the Society, he proposed to mention some cases that had occurred in his practice, to show the successive steps by which he arrived at the process in question. He had frequently tried, in vain, friction, acupuncture, and subcutaneous division; and though resection of the ends of the bone had been successful in some instances, it was a proceeding involving a considerable risk to life. Dieffenbach's method had proved to be more successful; but this operation, though conducive to the formation of new bone, in no way provided for what was of paramount importance, viz: absolute immobility of the op-

posing fragments. The large external wound and injury done to the soft parts in introducing the ivory pegs were also objections to this operation. Recognizing the happy influence of Dieffenbach's plan of exciting ossific deposit, and at the same time feeling the importance of keeping the ends of the bone in a condition of absolute immobility, the author was induced to try a modification of the operation ; and in the case of a man admitted under his care, at the Liverpool Royal Infirmary, with an ununited fracture of the radius, he drilled a hole through the ends of both fragments, and passing a stout wire through it, secured the bone in perfect apposition. Union took place in seven or eight weeks, but on endeavoring to remove the wire so much traction was necessary that it caused the fracture again to be ununited. The difficulty of removing the wire induced the author to think of some other plan not open to this objection ; and in the case of a man with an ununited fracture of the thigh, by means of a common Archimedean drill, he bored two holes in such directions that each passed obliquely through both ends of the fractured bone, and into each introduced a steel rod with a screw at the end. To this it was necessary to make an incision three inches in length. Much constitutional disturbance followed, the wound suppurating freely. In ten weeks the splints were removed, but no union had taken place. The limb was then confined in gum and chalk bandages. Symptoms of pleuro-pneumonia came on, and he gradually sank. A post-mortem examination showed tubercular deposits in the ends of the bone and other parts of the body. There was no attempt at repair at the seat of fracture, except where the drills had pierced the bone, and here there was a deposit of new bone. This proceeding showed that it was quite feasible to fix the bone in the manner described without exciting too much inflammatory action ; and also that the steel rods caused the formation of new bone. The next case was a fracture of the lower maxilla, where the bones had united in such a position as to render the patient a most unsightly object. As the incision that would be necessary in this instance for the purpose both of putting the bone into proper position and removing the deformity of the soft parts would not allow the use of external splints or supports, and as it was found impracticable to effect this object by fixing the teeth by an appliance within the mouth, it was absolutely necessary that some means should be devised by which the divided portions of the jaw could be securely fixed ; and it occurred to the author that pegs or nails would answer the purpose, especially as he had already observed their presence caused so little inconvenience. Accordingly, at the operation, the plan just mentioned was carried out, and the apposition of the fractured portions was secured by means of two round-headed nails. They most effectually answered their purpose, and no external splint or bandage was required. The case did well, no undue action being set up. On the 22d day after the operation, one of the nails came away. The patient left the In-

firmary perfectly well, the jaw being firmly united in its proper position, and the deformity of the soft parts removed. One of the nails still remained in ; and the last account states that its presence caused no inconvenience. The third case recorded was one that presented many points in common with the one just narrated. No external incision was made, and ordinary drill-heads were substituted for nails. The result was everything that the author could have wished. These cases show how regularly and with what good effect fractured bones may be fastened together. Surgeons have ever recognized the use of sutures with regard to the soft parts. Why should we not, in cases of difficulty arising from an inability to keep the surfaces in proper apposition, adopt the same plan with the bones ? Might not this process be applicable in some cases where division of the tendo-Achillis is required, or where such an operation as sawing off the ends of the bones is indicated ? From a consideration of the cases narrated, Mr. Bickersteth proposed to treat an ununited fracture by passing one or more drills through the broken ends of the bone in such a manner as to secure their perfect immobility, and without making any external wound beyond that caused by the entrance of the drill. The limb should then be secured by properly-adjusted splints, and kept at perfect rest. After two or three weeks the drills may be removed, and water dressing applied to the punctures. For several weeks after it would, of course, be desirable to continue the use of the splints. In conclusion, the author begged to place upon record three cases of ununited fracture recently treated by his friend, Mr. Fletcher, on the plan that he (Mr. Bickersteth) had suggested, and in each the result had been most satisfactory.

Mr. Ferguson said that he scarcely remembered to have heard a paper of greater surgical interest than the one just read. It had the merit of bringing out much that was going on in the modern practice of surgery, and he thought the paper would lead to greater improvements in practice. Here was further proof, he continued, of the advantage of wire and metal in instances in which in former times we were loth to use such materials.

Mr. Holmes Coote rose to correct what he believed was a very general and erroneous impression as to the views of Dieffenbach. This surgeon used to cut down to the ends of the bones and pass in ivory pegs with the hope of creating irritation ; but, if he could do it easily, he used also to fasten the ends of the bones together. Mr. Coote thought that three classes of cases ought to be distinguished—first, those in which there was union in good time ; second, those in which union was simply retarded ; and third, those in which union could not be obtained, as the ends of the bones were in a state of fatty degeneration. In the third, no good results could be hoped for.

Mr. Barwell, while agreeing with what had fallen from Mr. Holmes Coote concerning the degenerated condition of bones, considered that such condition was the result, more frequently

than the cause, of non-union. It was a law of animal nature that any organ losing its function should degenerate. Thus, when a bone lost its power of support, the surrounding muscular pressure and other conditions of its healthy life, it would surely degenerate; but until that degeneration had reached a high point it might still be restored. A remarkable case had occurred to him lately, which would also show that in certain instances the admirable plan proposed by Mr. Bickersteth would be unavailing—as in cases where the non-union was produced by a large quantity of soft parts intruding between the fractured ends. The case alluded to was as follows: About eighteen months ago a man broke his arm about two inches and a half above the elbow. He was admitted into the Charing-Cross Hospital. The fracture united well, and the man was discharged, cured. The same night, however, he got very drunk, and broke his arm again, but took no notice of the circumstance, continuing drunk for about a fortnight. Two months ago he again entered the hospital with a broken arm. As Mr. Barwell had been for some time taking the duty of his colleague, Mr. Canton, this case came, about a fortnight ago, under his observation, and he determined to operate. The upper and lower fragment was on the outer side, its lower end overlapping the head of the radius. The inner end of the lower fragment was half way up the inner side of the arm. The movement to and fro of this portion was very considerable; but there was always a wide interval between the two bones, which was occupied constantly by the anterior brachial muscle, sometimes also by part of the biceps, and in certain positions it seemed as though the artery and nerve also got between the fragments. The man having been placed under the influence of chloroform, Mr. Barwell made an incision two inches long over the outer fragment, and turning out its end, sawed out a wedge-shaped piece, so as to leave an angular gap or notch in the end of the bone. The inner fragment lay so far away from the wound, and in such close proximity to the artery and nerve that the greatest care was required in getting its end to protrude at the wound. This, however, was accomplished without any untoward accident, and the end was cut into a wedge shape, so as to fit with some degree of accuracy the interval in the upper fragment; traction was made upon the arm, and the two portions fitted together, and with the aid of a splint they retained perfect apposition. A singular condition of bone revealed itself during the operation—namely, that the periosteum on the upper fragment was loose, and could be slipped up off the bone as a man might turn up his shirt sleeves. The tissue was carefully replaced, yet, on account of this condition of bone, he (Mr. Barwell) could not but look at the issue of the case with some anxiety. The man had as yet (ten days afterwards) no bad symptom.—*Med. Times and Gaz.*, March 19, 1864.

Physiology of the Cerebellum.

Dr. P. Lusanna, directing attention to two experiments on birds, in which the usual appearances of irregular and disordered motions were manifested on injuring their cerebella, the author commences his lecture by citing the opinion of Flourens, that co-ordination of the voluntary movements is the function of this organ. Clinical observation on man has not favored this view; paralysis or powerlessness of voluntary movement, rather than disorder, characterizes lesions of the cerebellum. In a turkey, which Lusanna had succeeded in preserving some months after removal of the cerebellum, this powerless condition of the motor faculties was very manifest. At first, in the turkey, for several days disordered and irregular movements were present, but these gradually gave place to paralysis. Patients complain of being unable to feel the ground below their feet, but their movements are not really paralyzed. Lusanna believes that the cause of the symptoms is *loss of the muscular sense*, which co-ordinates voluntary movements. This sense differs from cutaneous sensibility in its anatomy, by its central organs, by its peripheral apparatus, and by its nerves. In its absence, an animal no longer feels the solidity of the earth on which it stands; it does not feel the resistance of the medium in which it flies or swims; it no longer feels the impenetrability of objects which oppose its progress, nor the weight of any body it attempts to seize or carry.

In man, diseases of the cerebellum usually give rise to hemiplegia of the opposite side of the body, most marked in the inferior extremity. In animals, the peculiar rotatory movements are disordered efforts at movement, but are nevertheless always voluntarily executed.(!) In birds, the disordered movements are bilateral or general; in mammals, they are unilateral. In the former, the cerebellum is one single mass superimposed on the medulla oblongata, and there is in it no decussation of its crura; in the latter, there are two lateral and a central lobe, and the posterior crura decussate. There is a correspondence in all classes of animals between the perfection of muscular sense and the development of the cerebellum. Lusanna is further of opinion that the cerebellum is the organ of the erotic sense, and that the middle lobe is this special seat of this function.

In reply to some critical remarks of Dr. Brown-Séquard on the above paper, Dr. Lusanna, in a subsequent article, adduces further proof of the correctness of his theory that the cerebellum is the organ of the muscular sense: He affirms that in 128 recorded cases of affection of the cerebellum, there is not one in which the symptoms were not those which characterize a lesion of the muscular sense, expressed, not by a state of irritation, but by want of action. If one such case, well observed, in which a considerable lesion of the cerebellum is not accompanied by lesion of the voluntary movements in some part of the body, can be adduced, Lu-

sanna is willing to give up his theory. In the case of Schroeder van der Kolk, cited by Brown-Séguard, in which, after a wound of the cerebellum, the patient could walk or mount a ladder, there is no proof of any considerable destruction of the organ, and the symptoms would rather be those of irritation than of absence. A wound of the brain does not annihilate intelligence, yet no one asserts that the brain is not the organ of the intellect. If an animal, which has survived the removal of the cerebellum, does not exhibit signs of the loss of the muscular sense, the author is willing to abandon his theory. Experiments on fishes confirm what the author has observed in warm-blooded vertebrata. When vomiting, irregularity of the circulation, syncope, and convulsions occur, they indicate injury of the medulla oblongata, and are usually of fatal import. On the other hand, lesions of motility are by all experimenters regarded as characteristic of injury of the cerebellum.—*Ed. Med. Journ.*, May, 1864, from *Journ. Physiol.*, 1862, and April, 1863.

The La Pommerais Case.—A homœopathic practitioner of Paris, named La Pommerais, has been lately condemned to death for the murder of his mistress, who he had previously induced to insure her life in different offices to the amount of one hundred and ten thousand dollars. The payment of the life insurance, in this case, has given rise to very interesting medico-legal questions.

First, it may be asked whether the sum for which the life of the victim of the charlatan Pommerais was insured, will have to be paid over to her children, and, secondly, whether the transfers executed by her in favor of La Pommerais are valid, and his representatives will have any claim on the companies. The insurances, it is contended, will be available for the children of the murdered woman. It is established, and the companies have not, it is believed, disputed the fact, that they did not sign the contracts drawn up in her name and for her behalf without having taken all the preliminary steps usual in such cases, and obtained all the information respecting the insurer when they covenanted to pay a specified sum. The conditions of the contract between Madame de Pauw and the companies were fulfilled so far. She had been visited by the companies' medical officers, who reported that her health was excellent, and that the insurance might be safely effected; and the first premium was punctually paid. The policies of insurance specify only two cases where insurance companies may refuse payment—suicide or death in a duel; but when the party insured is murdered, his or her heirs must not suffer by the crime of a third party, nor are the companies released from their engagements. It was the woman's life that was insured, and not La Pommerais's; and in no case would the latter take anything by the transfer of her title to him, as it was shown to be obtained by fraud.—*Am. Jour. Med. Sciences.*

Bibliographical Notices and Reviews.

Journal of the Discovery of the Source of the Nile. By JNO. HANNING SPEKE, Captain of H. M. Indian Army; Fellow and Gold Medalist of the Royal Geographical Society; Honorary Member and Gold Medalist of the French Geographical Society. With Maps and Portraits, and numerous Illustrations chiefly from Drawings by Capt. GRANT. New York: Harper & Brothers, Publishers. 1864.

This, though not a medical work, will not fail to interest medical men. It abounds in information, and information too that is to some extent new. The subject of medicine is but incidentally touched upon, yet enough is given to show that the natives of the different kingdoms through which the author traveled are in the most profound ignorance of the subject. Nor are the descriptions of the negro physique sufficiently full to be satisfactory. Drawings are given, it is true, of the forms of some of the tribes, but while the characteristic negro portrait is readily discerned, sufficient observations were not made to enable the student of ethnology to replenish his stock to any great extent. The same remark applies to other departments of the fauna of the region traversed. But more in regard to these subjects in another connection.

The expedition to Africa by Capt. Speke was undertaken for the purpose of discovering the source of the river Nile. Having been in Africa twice previously, the author discovered, on his second visit, Lake N'Yanza, which at his instance has since been called "*Victoria N'Yanza*." This discovery was made on the 30th of July, 1858. This lake lies under the Equator, extending from 3° South latitude, to a few miles north of the Equator, at which point is situated "Ripon Falls," the commencement of the Nile, as the author afterward established by personal observation.

The author traveled under the auspices of the Royal Geographical Society of England. He entered the African continent on

the eastern side, at Zanzibar Island, situated 6° South latitude, and thence proceeded in a north-westerly direction, until he arrived at a kingdom in South latitude $1^{\circ} 42' 42''$, and 5,500 feet above the sea. At this place he met with a king, *Rumanika*, who sympathized with him in his undertaking, and who also proved to be of much service to him. From Karague he traveled to Uganda, situated on each side of the equator. Here he also found a king like the one in Karague, who favored him with an escort, and the facilities the country afforded, of traveling to "Ripon Falls," where the Nile is connected to Lake Victoria N'Yanza. Having accomplished his purpose—having seen with his own eyes the source of the noble river, so classical throughout all time—and having solved the problem that has so long occupied the attention of geographers, the author followed the course of the Nile north until he arrived at the trading station of the Turks, between the third and fourth degrees North latitude, and thence to Alexandria. Thus he crossed the continent from south to north, traveling a distance of some three thousand miles, a large part of the way (1,300 miles) on foot. From the coast of Zanzibar to Uganda, the kingdom in which the discovery was made, the journey was performed on foot; and from this place again to the trading station of the Turks, on the White Nile, *Godonkora*, where he emerged, February 15th, 1863, having been absent about three years.

The reader will be ready to ask, How was it possible for an Englishman to travel such a distance through a country of hostile savages? Well, in the first place, he provided himself with an escort of armed natives. The company numbered some 200 men, 12 mules, 3 donkeys, and 22 goats. The men were made to perform the double duty of soldier and porter—that is, they were armed with spears, guns, etc., and carried at the same time cooking utensils, the stock-in-trade for the natives, such as brass wire, beads, pistols, watches, scarlet cloth, calico, etc.

On looking through Capt. Speke's Journal, we find much that might well be noticed. Our space, however, forbids anything more than a few general remarks.

We have in these travels considerable in the way of contributions to geography, hydrography, etc. Capt. Speke remarks that the continent of Africa has a high and central plateau, with a higher rim of hills surrounding it; from below which, exteriorly,

it suddenly slopes down to the flat strip of land bordering on the sea. Lake Tanganyika, near the center of the continent, is said to be surrounded by argillaceous sandstones. The central plateau seems to be made up largely of basins of fresh water (lakes). These overflow from the rains, the streams cutting through the flanking rim of hills find their way to the sea. The Nile rises from Lake Victoria N'Yanza, three thousand feet above the level of the sea, and flows to the north, emptying into the Mediterranean. From the same general geological formation arises the Niger, and, as Livingstone conclusively proved, also the Zambezi. As all know, the distance from Alexandria to the first cataract is 700 miles; from this place to the confluence of the White and Blue rivers, which constitute the Nile, 700, making the distance 1,400 miles from Alexandria to the junction of the two rivers. The White Nile, as we have just seen, Capt. Speke traced from Lake N'Yanza. The distance from this point to Alexandria, supposing, with Capt. Speke, this to be its source, is not far short of 2,500 miles, thus making the Nile the longest river in the world. Capt. Speke thinks the Blue Nile insignificant as compared with the White.

The reader of Capt. Speke's journal will wonder to himself whether this Lake N'Yanza is the head of the Nile. May not a series of streams flow into this lake from the east, a part of the country not yet explored, and also from the south? Speke, without any doubt, has established the great hydrological fact that the White Nile issues from Lake N'Yanza (Ripon Falls) in a stream 200 feet wide and 12 feet deep, still it remains yet a question whether this is the head-waters of the Nile. At what place is situated the watershed that gives the first impulse to the Nile? From Zanzibar the route of the author lay through vast reedy plains, parallel to the west shores of the N'Yanza. He crossed, in making this journey, a large river, which seemed to him as full of water as the Nile. This river—the river of Karague—is therefore regarded, and perhaps properly too, as the head-waters of the Nile.

The rains in Africa follow very nearly the track of the sun, and lasting not more than forty days upon any part the sun crosses. In the center of the continent, within five degrees of the equator, the rain is more lasting. For instance, at 5° South latitude, for the whole six months the sun is in the south, rain continues to

fall, and the same takes place at 5° North ; while on the equator, or a trifle to northward of it, it rains more or less the whole year round, but most at the equinoxes. In the month of January, 1861, it rained 19 days ; February, 21 days ; March, 17 days ; April, 17 days. In June, July and August there was the least rain. Capt. Grant made thermometrical observations in the region bordering Lake N'Yanza. From these we learn that the mean temperature was from 70° to 73° for every month in the year. The thermometer seems not to rise above 84° , or to get lower than 53° . The mean annual temperature then of Equatorial Africa, is 70° to 73° Fahrenheit. The winds were found in Central Africa with an easterly tendency, deflecting to the north and south, following the sun. In the dry season the winds were cool, sufficiently so to render the atmosphere very pleasant. The author walked every mile of the road dressed in woolen clothes, and slept every night between blankets.

A collection of plants was made during the tour by Capt. Grant, the companion of Capt. Speke. The collection consists of 750 species, collected between Zanzibar and the southern border of Egypt. Of these 420 belong to known species—or nearly two-thirds belong to published species ; not more than 80 or 100 species are quite new. The collection is thought to show great uniformity in the tropical African vegetation. The plants seem to botanists to indicate a poor flora and dry climate, most probably. Among the new discoveries are a new genus of *Leguminosæ* and another of *Cyperaceæ*. At the equator vegetation, as we have seen, grows in great profusion, because of continuous rains and fertile soil. But some five or ten degrees south of the equator where the dry season lasts for six months, the natives are compelled to lay up stores to enable them to live through this season.

We learn less, as above suggested, than might have been expected from this work, on the subject of ethnology. Capt. Speke traveled more for researches in the departments of Geography and Hydrology than for collecting facts for the ethnologist. But throughout the journal, more or less may be gathered which will nourish the young science of Ethnology a little, if nothing more.

The author, in his remarks on the fauna of the African Continent, disposes rather blithely of the peculiarities of the African physique. He says he found the man of Africa to be "the *true curly-*

head, flat-nosed, pouch-mouthed negro." Numerous drawings are given by Grant, the companion of Speke, of the kings, the queens, the soldiers, and the common men and women, who make up the population. From all of these the characteristic portrait is apparent. Any one who has ever seen a negro, or even the portrait chiseled out on Egyptian monuments some four thousand years ago, would recognise at once the characters of the face and head sketched by Capt. Grant. The compressed receding forehead, flat nose, thick lips, prognathous jaws, pouting mouth, receding chin, together with the peculiarities of other portions of the body, impress the beholder at once that he has a race before him which is a little peculiar. The outlines are so striking, and the uniformities so remarkable, not only of individuals, but also of tribes, that the beholder imagines himself to be really in the presence of people in regard to whom, and for whose benefit, a special creative act has been performed. But little is said about the color of the inhabitants. Where it is mentioned it is said it was black. In this respect it differs from what Livingstone found further south. On the central plateau and on both the eastern and western coasts, Livingstone found the jet black to prevail, while on the mountainous regions skirting the coast, the inhabitants were coffee-colored. In stature the specimens figured look to be of medium height, with very good muscular development. Upon the legs, the figuring shows *vasti* and *gastrocnemii* to be very fully formed. This originates, most probably, from the circumstances that a savage people use the lower extremities more than the upper. A group of men of the tribe of Kide is sketched. They all appear to be high in the calf of the leg, with long arms, and the muscles of the chest well developed. Many opportunities were afforded of testing the realities of the race odor. Grant, for example, is figured on page 148 dancing with a young princess. He has just recovered from a spell of sickness, and is giving himself up, apparently with much resignation, to the suggestions of the plantaris muscles. Capt. Speke himself spent weeks and months in positions instructive to the olfactories. This race odor is something very peculiar. It differentiates very precisely. A blind man may sometimes tell who is in his presence by it. It seems to proceed from glands situated in the skin that get up a compound in the perfumery line, the chief constituent of which is fat. On account of its fatty constituent it is less evanescent than had water been the menstruum

of the odoriferous ingredients. While at rest it accumulates on the surface, and becomes very demonstrative after a while. This circumstance is not regarded by barbarous people, and hence their rank odor.

In the esthetical department, we notice but little contribution to our former stock of information. The inhabitants without regard to position, from Zanzibar to the Wahuma country on the north-west side of Lake N'Yansa, were all accustomed to but little else in the way of clothing than the fig leaf. The Wahuma people improved a little on this by using, to some extent, the skins of the antelope, and in some instances by manufacturing from the fibres of bark a kind of cloth, with which they partially covered the body. Public opinion, nevertheless, was not in favor of clothing on the score of decency. Queens and young princesses seemed to have no misgivings on the propriety of showing themselves at court attired exclusively in the garb of the cuticle and its appendages. Why is this? we might ask the philosopher. The temperature, as we have seen, is something like that of an Ohio summer, though far from the intensity of heat we have just experienced during the last month (June). At 75° Fah., woolen clothes are very comfortable here. Why not in the Wahuma kingdom, where this, as we have seen, is about the average temperature of the year?

Everywhere there appeared to be an absence of anything approaching in appearance to a house. The natives, including the royal personages, build huts of mud and bark. These were numerous in places, approaching the character of villages. The kings had some arranged in which court or consultation was held. Some of these huts were very neatly thatched, though all inhabited by fleas. The author found it a very nice sanitary regulation to burn over the floor of those assigned as his quarters. All of the natives, and this was true also of kings, sat on the ground. They ate with their fingers, knives and forks being unknown or not regarded.

Various have been the speculations in regard to the African on the score of industry. Will he work? Does he work at home? Will he provide against the contingencies of seasons? These questions have been partially answered by travelers heretofore. The testimony of our author is to strengthen what we have heard from Livingstone, whose opinions appear to have been carefully

expressed—expressed after a long sojourn among the natives. The African, it would seem, does not care to work. In the region near the Equator, there is less need for work, because the spontaneous production in the way of animals and vegetables is such that but little labor, except what is necessary to gather food, is indispensable. On each side of the Equator, however, at the distance of five or six degrees, there is a dry and there is also a wet season, as before remarked, of some six months duration each. In these localities, our author states, the inhabitants were frequently visited with famine because of carelessness and laziness in making at the right time a proper provision. He found also in his experience with them, as servants and porters, that they have a very high opinion of lying down in the sun by the side of a little job of work. He often had to nudge them, and kick them, and even thrash them, to get them to do their work. We put a question here again to the philosophers, Why is it the negro shows such an indisposition to physical exertion? A boy is not very uncommon who is disinclined to work. We explain his case by saying that his bones are not matured, and labor hurts him. This explanation does not apply to the African at maturity. Warm weather relaxes both mind and body, so far as the European or American is concerned, and hence, in the summer season, shady places, out of sight of labor, are preferred. But does this apply to the African? He is in the climate that suits him. He has neither winter nor summer; neither warm weather nor cold weather; and yet he spends his elbow grease very reluctantly. It might be suggested to the philosophers to go to work, and see if the muscle cells, the explosion of which is said to constitute the essence of muscular contraction, are in any respect different in constitution from those of the white man. The chemistry of these cells might be looked into, so also their vital endowments. Perhaps chemistry may show material not easily ignited, slow to take fire. Should the investigation of the muscular cells fail to reveal anything satisfactory, the inquiry might be extended to the brain in the hope of solving the problem. This organ has the power, it is supposed, to set the muscles in motion, and keep them in motion for a while. What is there here that might prove suggestive? Well, the African, to begin with, has less brain than the European,—eleven cubic inches less on the average. This though is only a matter of quantity, and it is known that industry is far from being confined

to the big heads of either a community or a race. Now, might not the peculiarity of the African be due to something or other in the chemical composition of the brain? Having now pursued the question thus far, we leave it in the hands of the chemists, with the remark that we should be pleased to hear from them.

The moral status of the negro of the portion of Africa traversed by the author is about that given by other travelers. Unacquainted with Christianity or Mohammedanism, or, indeed, with any form of religion, and having neither knowledge of God nor ideas of a future state, the African has no conscience, no sense of right or wrong, and, as a consequence, lies, steals, robs, or takes the life of his neighbor without the least remorse. The king holds all of his subjects in a state of slavery, selling them (which our author says is the principal commercial business of the country) to the slave-traders for the most frivolous offenses. The wives of the more humane of the kings frequently shared the fate of the common culprit. Nothing was ever thought by Rumanika, one of the best of the kings, of ordering a wife executed on starting out on a hunting excursion. In a case given, a subject was shot by the king's son and at the king's instance, merely to try a gun that had been presented to the king by Capt. Speke. Of morals, therefore, among the Africans, it may be said there are none. The practices that obtain are the result of usages and traditions transmitted from generation to generation, or of the whims and caprices of the occasion. Almost all of the kings were found to believe in magic, and possess magic horns filled with magic powder. Into these they looked for coming events, the movements of enemies, the character of the seasons, etc. By these magic horns, too, the objects of visitors, who came into the country from a distance, were divined. Many times travelers have been thwarted in their purposes, and sometimes murdered, upon the evidence of a magic horn. War in Africa seemed to be an established institution. It was carried on most frequently for the purpose of capturing slaves to sell to the traders, or for the possession of territory. As a consequence of this policy, tribal characters were all the while undergoing changes, and kingdoms were often without any well-defined limits. One custom universally present was, to exact of travelers a tax (*Hongo*) for passing through the kingdom. This tax had to be paid, or the traveler, if even in force sufficient to defy a direct assault, was annoyed in many ways. The tax levied was what at

the time it was supposed the traveler was able to pay. If, after receiving it, it was ascertained that he was able to pay more, a new demand was made. In many instances our author had to protest, rave, swear and threaten against the robbery, though not always did he carry his point. The beating of the drums, which signified leave of departure, was often delayed until the tax first agreed upon was paid three or four times over. As a consequence our author is very profuse in his encomiums upon the African kings as being up to the mark in the way of treachery. He found not one free from this vice, though he found it associated with different degrees of ingenuity.

The moral condition of the people did not seem to be improving. It has rather deteriorated, the author thinks, since foreigners have had access to the interior of the continent. The slave and ivory traders have carried their sins to the native African, and made him worse than he otherwise would have been. A system something like the English have in India is, in the author's estimation, the only hope for Africa. The country is fertile, mostly well watered, and would respond to the labors of the agriculturist, but the inhabitants think of present wants only, and such too as relate exclusively to the stomach. A superior race, the author thinks, will have to take charge of the African, and learn him how to live.

No nation of people seems to be so poor in the way of inventive genius as not to find out something that will stimulate, something that will awaken an extra flow of feeling, and cause the individual to believe himself fully all that he is. Everywhere the author found the natives acquainted with the manufacture of beer (*pombé*), and the use of it was common among subjects as well as among the kings. Visitors were treated to it without stint, and they found it not bad to take. It readily produced intoxication, and the kings were in the habit, no less than other classes, of taking a high, and keeping it up for days. The author taught one of the kings the process of distilling from the *pombé* a more concentrated article, the effects of which would be more prompt. This was a nice bit of information highly prized by the king. From the accounts given, the *pombé* constitutes a staple article of drink. Few meals were taken without it by the royal family or those connected with the villages. None were so ignorant that they did not know how to make *pombé*. They were very liberal in offering it to

visitors. "Pombé! pombé! take a little pombé, white man," was by no means an infrequent greeting of the women.

Here is another nut for philosophers to crack. Why this universal desire among heathen as well as enlightened nations for something to stimulate? Is there really in mankind an *alcoholic sense* that physiological considerations require should be attended to? Or is there just naturally in human nature a great tendency to deflection from the perpendicular towards the alcoholic point (pint) ?

Physicians are always interested in the observations of the traveler in new countries. With respect to African medicine so much has been written, and what has been written concerning medicine among the negro population, is so much alike, that the subject has almost ceased to prove of any interest. Every traveler nevertheless sees something either to confirm previous reports or to extend knowledge a little. All observation shows that there is no nation, however uncultivated, without its medicine and its doctors. The Africans have both, and in about a degree that corresponds with other things among them. At Usui, east of the Wahuma country, a doctor was met with that the author styles "a great doctor." As he was about a fair sample of the profession, we will give the author's description of him :

"In front of his hut he had his church or uganga—a tree in which was fixed a boe's horn charged with magic powder, and a zebra's hoof suspended by a string over a pot of water sunk in the earth below it. His badges of office he had tied on his head; the but of a shell representing the officer's badge being fixed on the forehead, while a small sheep's horn fixed jauntily over the temple, denoted that he was a magician. Wishing to try my powers in magical art, as I laughed at his church, he begged me to produce an everlasting spring of water by simply scratching the ground. He, however, drew short up, to the intense delight of my men, on my promising that I would do so if he made one first."

From this the doctor's professional attainments may be gathered as well as the bearings of his mind. He seemed to have character with his people, answering their ideas of what ought to be embraced in the character of a physician. The majority of the diseases, it would seem, were cured by magic; the greater the magician the greater the doctor. But the African doctor had his drugs. He it would seem was very far from belonging to any of the one-idea schools. The drugs were obtained occasionally from trav-

elers, and also from the Arab traders. Sometimes native plants were used. For the cure of malarious diseases, when inveterate, the cautery was employed. It was also used in some of the kingdoms for all severe diseases. The King of Unyora wanted the author to give him a medicine that would attach all of his subjects to his throne. This was certainly an example of great confidence. This king had most likely never read Holmes' "*Currents and Counter Currents.*" Why not send him a copy? The African ought to know something of the "silver hoe" that Oliver Wendell says a colonist of Massachusetts cured himself of an attack of typhoid fever with, "and thus, most likely, saved the infant colony of Massachusetts." The African king believes in medicine. He employed the author to physic not only himself, but also the queen. But it may be said that he believed too in the magic horn in the cure of disease. This would make him something of a latitudinarian. Oliver Wendell disbelieved in drugs, but believes in the "silver hoe" in typhoid fever. What's the difference? "Training pills" were sometimes used by the natives. They were made of the buds of roses and sugar. Before starting on a march it was the custom of the natives to take these pretty freely. One of the natives was very eloquent and elaborate in his description of the effects of these pills.

An account is given of what took place when it was ascertained that one of the women of position at court had been delivered of still-born twins.

"The women went about in procession, painted and adorned in the most grotesque fashion, bewailing, screeching, singing and dancing, throwing their arms and legs about as if they were drunk, until the evening set in, when they gathered a huge bundle of bullrushes, and covering it over with a cloth, carried it to the door of the bereaved on their shoulders, as though it had been a coffin. Then setting it down on the ground, they planted some of the rushes on each side of the entrance, and all kneeling together, set to bewailing, howling and shreeking incessantly for hours." With some tribes it was the practice to look upon twins as an unfavorable omen. As a consequence, to propitiate the gods, they were killed as soon as born.

Some queer practices obtained with regard to burial. For instance, Kimera, a king of great character, was buried with state honors. The body was first given to the king's most favorite consort, whose

duty it was to dry it effectually, by placing it on a board resting on the mouth of an earthen pot with fire in it. When the drying process was completed, at the expiration of three months, the lower jaw was cut out and neatly worked over with beads. The umbilical cord, which had been preserved from birth, was also worked over with beads. These were kept, and the body consigned to a tomb and guarded ever after by an officer and a certain number of the king's most favorite wives.

African kings seemed to be fond of fat women. To be fat was to be very lovely, very exquisite. Queens, princesses, and, indeed, all connected with the royal household, were required to make themselves as fat as possible. This practice obtained in the three most enlightened kingdoms. The author gives the case of a sister-in-law to King Rumanika, who became a wonder of obesity. She was measured carefully : Height, 5 feet 8 inches; round the arm, 1 foot 11 inches; chest, 4 feet 4 inches; thigh, 2 feet 7 inches; calf, 1 foot 8 inches. This woman was unable to stand except on all fours. The article of diet employed in the fattening process was milk. Female members of the royal family, when young, were placed in charge of a guard, who confined them in a sitting position, furnishing them at the same time with a pot of milk and a straw to suck it with. The attendant provided himself with a switch, that he used freely if necessary to keep up a constant sucking of the milk. The patient was not allowed to stop when the appetite was satisfied. She had to keep up the sucking process, or suffer the penalty.

Here is a little matter for the physiologist, if not for the physician. The process, according to the testimony of the author, answered the purpose admirably. Two things in it are apparent: absence of muscular exertion, and the use of milk. The condition of the body, as well as the material employed in laying on fat, will bear, perhaps, the test of criticism. Rest is really indispensable in the process, and it appears to be a well established fact in dietetics, that those articles best calculated to fatten are those that contain in themselves a large proportion of fat, or contain elements easily changed into fat. Milk is one of the two substances that seems to contain all of the elements, fifteen in number, that enter into the composition of the body, and hence its adaptation to the organism of the infant. It is the food, cooked and seasoned by nature, for the infant. Chemists tell us that in

1000 parts of milk we have 25 parts of fat and about 45 parts of sugar, a substance easily metamorphosed into fat. Here, then, is the secret of the utility of milk in fixing fat in the system. The African is right in the means used to accomplish his ends. The pombé or beer, in such general use as we have seen, would not answer the purpose so well as milk, though we should think it might prove an important adjuvant.

It might now be inquired whether or not, this measure is totally without suggestions. In many conditions of the system, an important thought of the physician is to supersede the morbid movements by encouraging, or even exciting, the nutritive process. Whisky is administered, and is popular in consumption, on the supposition that it lifts the organism by degrees above the cachectic influences. It is presumed that it sometimes stops the deposition of the tubercular matter; or, after deposition has commenced, prevents an increase thereof, or promotes its absorption. All agree, whatever differences there may be in the views touching the *modus operandi*, that stimulants in the disease to which we have alluded, once in a while accomplish good results. Now, why not use milk for the purpose that we use stimulants? Why not set the consumptives at once, all over the country, to sucking milk? The article is far superior in nutritive materials to any of the preparations of alcohol. Besides, it is free from the objection, often well taken, to the use of stimulants. The practice of the African to make his wives beautiful is, like the hunt after the philosopher's stone, fruitful in suggestions, to say the least.

From what the author has said, and really from what he has not said, the inference is very clear that the tribes of the portion of Africa over which he traveled enjoy good health. Sickness, the sickness of the natives, figures but slightly in his narrative. The climate is mild, differing in temperature but little from that of a cool summer day in Ohio. Certain localities, the rush drains and the flats, of course engender disease, but these are generally given over to the possession of wild animals. The natives build their huts in the more healthy places. The African, however, shows an aptitude to contract disease on change of latitude. Those inhabiting the arid regions to the south, do not bear very well a transportation to the equatorial, where the vegetation is rank and the rains frequent and copious. Sir George Gray, the Governor

of the Cape, kindly furnished the author with a number of Hotten's tot soldiers to serve as a part of his escort. They were taken from the Cape to Zanzibar, but on arriving there became pretty much all sick, and proved to be an utter failure. The change in climate they seemed to be unable to withstand.

Negro life is not wasted to any great extent by disease. The population is kept down by war and the slave-trade. The system of polygamy, practiced by the kings, gives rise to a race of half-brothers, who, on the death of the father, and sometimes before his death, all aspire to the prerogatives of the crown. This gives rise to war—often a war of extermination. The slave-traders, on all sides of the continent, continue to ply their vocation. The kings enter into the schemes of the traders very fully, and secure a large portion of their foreign supplies—in the way of beads, cloth, guns, ammunition, toys, etc.,—by selling their subjects and prisoners of war. A man is traded off with as little compunction as an elephant's tusk would be. The king's subjects, being his property in all senses of the word, he parts with them, or not, as suits his interest, and no one has the right to enter a protest. The Arabs are the principal dealers; they sometimes make journeys into the interior to buy, but often buy all they want on the coast, from the agents of the kings, who have them there in market. The price of a slave at Zanzibar was very low; most of them were bought for a few yards of cloth, a little brass wire, or an ounce or two of beads. The slaves are said to become much attached to their masters.

"In a few years after capture, or when confidence has been gained by the attachment shown by the slave, if the master is a trader in ivory, he will entrust him in the charge of his stores, and send him all over the interior of the continent to purchase for him both slaves and ivory."

"The whole system of slave-holding by the Arabs in Africa is exceedingly strange. The slaves are superior in physical strength and in numbers, and could, if they wished, send the Arabs out of their land flying. It happens, however, that they are spell-bound, not knowing their strength more than domestic animals, and they even seem to consider that it would be dishonest if they ran away after being purchased."

In some instances the slave was free on the death of the master; such was the Mohammedan law. In such a case the slave aspired to become an ivory and slave trader on his own hook, and it is said he often succeeded very well.

Are the Africans all alike? Do the tribes differ from each other in any essential respect? The author remarks:

"Taking the negroes as a whole, one does not find very marked or much difference in them. Each tribe has its characteristics, it is true; for instance, one cuts his teeth or tattoos his face in a different manner from the others, but by the constant intermarriage with slaves, much of this effect is lost, and it is further lost sight of owing to the prevalence of migration, caused by wars and the division of governments. As with the tribal marks, so with their weapons, those most commonly in use are the shield, assegai shield, bow and arrow."

From all that can be learned from the most trustworthy travelers there appears to be but little real difference between the tribes. The Hottentot negro, the Guinea negro, the Congo negro, the negro of the Niger, the Senegal and Gambia, are pretty much alike. His black skin, thick lips, woolly head, and flat nose, are the characteristics, and they obtain with very great uniformity. Alike, too, are they all in regard to intellect. The civil and social state of the Congo is the civil and social state of the Hottentot, and of every other unadulterated tribe on the continent. Much has been said in regard to the superiority of certain tribes. It has been alledged that some are naturally more humane, and more easily taught. All such speculation amounts to nothing. The African is the African—just like the American Indian is the American Indian wherever found. Negro land in Africa has had its coasts occupied with foreign races as long as anything has been known. The country, too, has been perforated from every point of the compass by traders. The result is an admixture of the races in many places, giving rise to an hybrid race, and the introduction, to a certain extent, of new habits and customs, or, to say the least, a great modification of the vulgar, lazy bearing of the natives. This is very obvious at the Cape and as far north as Orange river. So, also, is it along the entire northern and western borders of the continent, where, in some instances, the mixture has been so complete that a kind of new type has sprung up. Many kingdoms in the interior of the continent are governed by foreigners of mixed blood, who, from adventure and skill, have won the confidence of the people. From all this it may be seen why it is the traveler meets with diversity in African character, and why it is he comes to the conclusion that some of the tribes are so much more industrious and intelligent than others. The truth is, the unmixed negro, surrounded by the circumstances of an African climate,

with his own instincts and reason in full and healthy play, is the same being wherever found. In *physique* he is the same that he was when the artists of Egypt amused themselves, some four thousand years ago, in figuring him on monuments. In his civil state he is the same to-day, according to the observations of Captains Speke and Grant, that he was when his social condition was first discovered.

The kingdoms through which the author passed differed some in the character of the kings, their temper toward travelers, etc. After leaving Zanzibar, and for a long distance west and north, the kings were very badly disposed. Finally, a country was reached, lying to the west and north of Lake N'Yanza, in which the kings were more sensible; and, after hearing fully the objects the author had in view in visiting the country, seemed to enter fully into the subject, favoring him with all the facilities for travel at their command.

The country embraced in these kingdoms was formerly called *Wahuma*. It is now divided into four kingdoms, Uzinza, Karague, Uganda, and Unyora, situated in the order mentioned from south to north, and extending from $2^{\circ} 30'$ south to a short distance north of the Equator. The royal personages presiding in these States, from a number of circumstances, were supposed to have come from Abyssinia. This was a tradition current in the country, and supported, the author thinks, by a number of facts. They were more humane than their neighbors, had advanced to the knowledge of working in iron and brass, raised cotton to a limited extent, were more inclined to agriculture, and were better mentally and morally. They were the only kings met with who were not afraid to congratulate the travelers on their arrival in the country, lest famine or some other disaster might follow. Some specimens of the royal family had straight hair, and a *bridged* instead of a *bridgeless* nose.

As the civil and social state of these tribes were carefully observed by the author, he having spent the most of two years among them, a remark or two in regard to them may not prove useless in the way of making up correct opinions on African character. They were all found to be pastorals; agriculture obtained to but a limited extent, and it was carried on mostly by the women. The arts were also cultivated to a limited extent. They understood smelting iron, and the making of a few rude instruments.

The women made out of bark a few articles of clothing. Cotton was raised and used for the same purpose. All classes, however, went naked, except a slight covering for the pelvis. The kings all sold their subjects to the traders, the Arabs, and in this way procured supplies of foreign articles. The kings were absolute in authority, requiring of officers the most implicit submission, and their frequent attendance at court. They seemed to delight in making their authority felt, and in punishing the culprit with the greatest severity. The wives of the kings were executed for the slightest offenses, and the king of Uganda distinguished his policy by the execution of one subject daily.

These tribes had a singular way of trying to avoid the contentions that might arise from aspirants among the royal family to the prerogatives of the crown at the death of the king. From a number of wives came, on the death of the king, quite a number of sons, each of whom seemed to be equally entitled to reign as successor. The people immediately, from the whole number, elected one, a minor at the time, and not of too high blood, lest his reign should be prejudicial to the poor. The prince elect together with all of the aspirants were then placed in a hut of instruction, and confined closely. When the prince elect arrived at the age of discretion, he assumed the royal robes. The rest of the prince's companions of his pupilage, except two, who were spared, were put to death. The two were spared so as to have on hand a little royal material, out of which to construct another monarch in case the king should die without offspring. This contingency not occurring, the two young princes were banished. This looks like, as some one has remarked, what is alleged to happen among a certain class of bees, when they happen to have an over-stock of royal grubs on hand.

The King of Unyora offered to the travelers two boys, seized by him as slaves, to be taken to England and there educated. The proposal was declined, as the boys were of the common breed and not likely to be ever loved by any body but their mothers. The king, Kamnis, was told that his own sons would be the most likely to receive an education, and that he ought to part with a couple of them for the purpose. He replied, in a disappointed tone, that he could not spare his own children, and that, any how, they were mere balls of fat, unable to travel.

The language of the people seemed as strange as themselves. It was not destitute of euphony, and on this account it was difficult, requiring one to be possessed of the turn of mind of the negro to unravel and appreciate the concord. A peculiarity was that *Wa* prefixed to the essential word of a country signified men or people; *M* prefixed meant man or individual; *U* in the same way, meant place or locality; *Ki* prefixed indicated the language. In sound the author thought the language of the people resembled that of the Tibet Tartars. In the pronunciation of words the *u* was sounded like *oo* in *woo*. Dr. Krapf wrote a grammar of the Kisau-hile language, that is said to be a good guide for the traveler.

Language was found to vary very much in different tribes. The tribes, however contiguous, managed to understand each other, though far from using the same words to convey their ideas. The Hottentot negroes, brought from the Cape, did not understand the languages current at Zanzibar, nor that of the tribes in the interior. This was one of the reasons why these soldiers, tendered, as before remarked, by the Governor at the Cape as an escort, proved to be so useless.

Nilotic discoveries are divided among quite a number of individuals. Bruce, acting on the supposition that the Blue Nile was the more important of the two rivers, reached Abyssinia about the end of the last century. He explored Lake Dembea, the source of that river. In 1827 Linant made a short expedition up the White Nile. A short time after Linant, Arnaud, and Weane passed up for the distance of 1,000 miles, terminating at Godonkora, the place, or settlement as it now is, where Speke first found himself, in returning home, in the hands of his friends. Godonkora is, as Speke ascertained, in latitude $4^{\circ} 54'$ N., and longitude $31^{\circ} 44'$ E. Miani, a French traveler, reached a point a little higher up the river, latitude $3^{\circ} 34'$ N. Krapf and Redman commenced at a small town on the east coast of Africa—Mombas— $4^{\circ} 4'$ S. They studied the languages of the people, and made journeys to the interior. These travellers published maps, figuring near the equator two snow-capped mountains. These snow mountains were thought to be identical with the Mountains of the Moon. In 1857 the Geographical Society of London sent Burton and Speke to the eastern coast of Africa, to commence their labors at Zanzibar. They discovered Lake Tanganyika. The route from Zanzibar to this lake lay due west. Burton was the leader

in this expedition. At Kazeh, Burton was taken sick. This is the half-way station between Zanzibar and Lake Tanganyika. At this place Burton dispatched Speke, solitary and alone, northward to a lake, called by the inhabitants Nyanza. Speke reached the southern shores of this lake in latitude $2^{\circ} 45'$, S., longitude $33^{\circ} 30'$ E. Speke heard from the natives that the lake had a northern outlet—that a river originated from it on its northern side. He came to the conclusion that that river must be the Nile. The expedition we have been noticing was planned to investigate that hypothesis. Speke, on coming home to England, told Sir Roderick I. Murchison what were his impressions. Sir Roderick, after hearing him very fully on his theories, said to him, "Speke, we must send you there again."

The Royal Geographical Society advanced for the expedition some \$12,500, all of the instruments necessary, fifty artillery carbines, with belts and swords attached, 20,000 rounds of ball ammunition, and some rich presents in the way of gold watches for the kings.

Capt. Grant, an old friend and brother sportsman in India, of Speke, hearing of the expedition, asked to go along. On the 27th of April, 1859, Captains Speke and Grant embarked on board the steam frigate *Forte*, at Portsmouth. After a long voyage, touching at Madeira, they arrived at the Cape of Good Hope July 4th. Sir George Grey, then Governor at the Cape, induced the Cape Parliament to advance to the expedition £300, for the purpose of assisting in the expenses of the outfit. The Governor also placed a steamer at the service of the travelers, on which they sailed for Zanzibar, arriving there July 16th. He also furnished the travelers, as before remarked, with some Hottentot soldiers.

This book is written in very clear style. It will prove to the general reader perhaps rather dry, because of its elaborate details. This, however, makes it valuable. African life is minutely given. Nothing, it seems, of any value, is left out. The work, as a consequence, will be looked upon as a fair and faithful representation of men and things in the portion of the continent through which the author traveled.

The Royal Geographical Society has the credit of this expedition, which has terminated so successfully in the line of discovery. The fog hanging over Central Equatorial Africa has been dispelled. The geographer will hereafter be enabled to occupy the

"unknown regions" with some very interesting figures. The question, too, as to the source of the Nile, is put at rest.

Editorial and Miscellaneous.

Speke's Travels in Africa.—In the Bibliographical department will be found a notice of the journey of Captains Speke and Grant in Africa, undertaken for the purpose of searching out the source of the Nile. This Journal ought to interest physicians. A good medical mind grows up after reading not merely the prescribed routine of works strictly professional, but everything bearing in any way on the subject of medicine. In the Collateral department we have Topography, Geography, Hydrography, Meteorology, Geology, etc. We hazard nothing in saying that the diseases of a country are poorly understood by any one not to some extent acquainted with these subjects. These physical sciences, if properly invoked, will do much to explain the origin of the diseases of a country. The works of the late Dr. Daniel Drake investigate the diseases of the Interior Valley of the Mississippi from the physical standpoint, and, we regret to say, they are nearly alone in this respect. The first volume is almost entirely on the physics of the region, the conditions under which the diseases seem to arise.

Captain Speke provided himself with all the instruments proper for surveying, for taking latitude and longitude, for ascertaining the temperature of the weather, quantity of rain, direction of winds. We learn for the first time, from these travels, the real source of the Nile, and how it is that it issues in the form of a cataract (Ripon Falls) from Lake N'Yanzi. We learn that at the equator, and for five or six degrees on each side, rains are very frequent, following the course of the sun. Beyond these lines it seldom rains, the country being dry and the flora very poor. We learn that Central Equatorial Africa is characterized by the presence of a number of fresh-water lakes, from which several of the principal rivers of the continent originate. We learn that the temperature

of the atmosphere varies but little the year round—the mean annual is about 73° or 75° Fah., the thermometer not often sinking below 53° or rising above 84° . As a consequence, we feel quite refreshed to find out that the poor natives of Central Africa, imagined to be dying from heat and drouth, have a climate the temperature of which varies but little from that of one of our cool summer days in Ohio.

The type of man encountered by the travelers differed but little, if any, from that found in other portions of the continent. In the Wahuma country, now divided into four kingdoms, the kings were supposed to be of Abyssinian origin, and were not so averse to the objects of travelers. The common people, however, were ignorant and degraded.

A New Medical College at Cleveland.—We notice in the Cleveland papers a list of the Faculty of a new Medical Institution to be established in that city, under the cognomen of "Cleveland Hospital Medical College." The names of its Faculty disclose the fact that it is composed of some of the most prominent medical men of this and other States. G. C. E. WEBER, M. D., (Surgeon-General under Gov. Tod,) takes the Chair of Civil and Military Surgery; J. H. SAULSBURY, of Albany, New York, that of Histology and Physiology; Dr. DUTCHER, of Enon Valley, Theory and Practice; Dr. DASCOM, of Oberlin, Chemistry and Toxicology; W. J. SCOTT, of Franklin, *Materia Medica*; J. L. FIRESTONE, of Wooster, Obstetrics and Diseases of Women and Children; ROBERT NELSON BARR, (present Surgeon-General,) Anatomy; A. E. METZ, of Massillon, Ophthalmic Surgery; Dr. STRONG, Glandular System; M. S. CASSEL, of Cleveland, Medical Jurisprudence.

The basis of the College will be the union of clinical and didactic teaching. The plan is to combine, to the fullest extent, these two methods of instruction, not devoting attention to either method at the expense of the other, but aiming to give the utmost practicable extent to both. As this Institution will be in direct competition with the one already in operation at Cleveland, nothing of course will be spared to make it complete in all its departments.

Dr. WEBER, the Dean of the Faculty, is now in Europe, collecting data and material for the benefit of this new College of Medicine.

Died.—Dr. DANIEL ADAMS, of Keene, New Hampshire, died at his residence a few weeks since, at the advanced age of ninety-two. Dr. Adams was one of the earliest graduates of Dartmouth, and a student of Dr. Nathan Smith, Sr. At one time he conducted a medical journal in Boston. He was the author of several school books. Adams' Geography and Adams' Arithmetic had quite a run in the eastern, and to some extent, in the western States. Dr. Adams lived to purpose. He did a vast amount of labor in the line of literature, and occupied a very commanding position in his profession. He practiced his profession until within some fifteen years of his death.

New Method of Operating for Strangulated Hernia.

Professor Max Langenbeck observes that this procedure might perhaps be most fitly termed the subcutaneous reposition of hernia. An opening is made in the skin only large enough to admit the forefinger, not just over, but on one side of the hernia. The finger introduced into the wound easily thrusts aside the connective tissue, glands, fat, etc., and pursues its course until it reaches the inguinal canal or the fossa ilio-pectinea, as the case may be, passing under the skin very much as a bullet does in gunshot wounds. Having reached the point of stricture, the finger practises the subcutaneous isolation of the herniary tumor, destroying any recent adhesions and external exudative structures which may impede reposition, and which are, indeed, often a result of the employment of the ordinary means of reduction. In most cases, this isolation of the hernial tumor can be speedily and easily accomplished; and its size and degree of tension, as well as the thickness of its sac, may be approximately decided upon.

Having reached the point of stricture, we should, in femoral hernia, feel for the horizontal ramus of the pubis and Gimbernat's ligament, and in inguinal hernia for the internal crus of the abdominal ring, and gently compressing the surface of the nail against the neck of the sac, pass the finger in beside it. No great resistance is offered to this by the incarcerated hernia; and by the gentle pressure employed, not infrequently a certain amount of peristaltic action and increased protrusion of the intestine is produced, together with more or less separation of the recent exudation. In the case of femoral hernia, the finger feels distinctly with

its volar surface the sharp edge of Gimbernat's ligament, and at its lower edge the horizontal ramus and pubic ligament upon which it rests. In order to produce dilatation, Gimbernat's ligament is to be ruptured through part or the whole of its extent, or separated from its insertion. The ligament yields to the pressure made by the nail with an audible cracking sound. In inguinal hernia, the end of the finger meets with a greater resistance from the inner crus of the abdominal ring than from Gimbernat's ligament. The resistance is usually, however, overcome by a steady boring motion of the finger against the point of insertion in the pubis. When the resistance cannot be thus overcome, Dr. Langenback employs what he calls an "incision ring." This, constructed of wood or metal, resembles a signet-ring, made as thin as possible, and having affixed to its surface, in the direction of the long diameter of the finger, a cutting edge projecting about $1\frac{1}{2}$ lines. The ring is placed on the finger-point, the cutting edge being on its volar surface, and the finger is introduced through the short subcutaneous canal which it had already made as far as the annulus. By pressing the cutting edge against the sharp edge of the internal crus, this is divided with complete safety to the intestine, which is protected by the dorsal surface of the finger. In order to prevent the slipping off the ring during the withdrawal of the finger, it should be secured by a ligature. The incision made, the necessary dilatation is accomplished by means of the finger. In the case of external inguinal hernia, the resistance of the ring is more easily overcome. As soon as the stricture has been removed, a retractile motion is set up, and the hernia, as a general rule, is spontaneously reduced. Usually it at once passes into the abdomen, sometimes waiting a minute until after the finger has removed some adhesions from around the orifice. When the adhesions are old, and very firm, it is best to rest content with removing the constriction without attempting reposition. After the finger has been withdrawn, there is but a slight appearance of injury at the seat of the operation, and the place where the hernia lay is completely covered with the skin. In none of the author's ten cases did the operation occupy more than five minutes, and in most of them but two. The subsequent course of these cases was also highly favorable, the wound readily uniting, the patients all leaving their beds between the fifth and tenth day, a broad truss being first applied.

Dr. Langenback contrasts at some length his procedure with the ordinary mode of treating hernia, and maintains that, by reason of its much greater safety, and the more rapid recovery which ensues, it is infinitely to be preferred.—*B. and F. Med. Chirurg. Rev.*, April, 1864, from *Allg. Wien. Med. Zeit.*, 1863.

On the Hypodermic Treatment of Uterine Paine.—By J. HENRY BENNET, M.D., late Physician-Accoucheur to the Royal Free Hospital.—During the present winter I have used, with prompt and marked success, the hypodermic injection in several cases of severe dysmenorrhœa, with or without hysterical complications, and in several others of uterine and ovarian neuralgia, and of facial neuralgia having an uterine origin. The relief has been obtained in from fifteen to thirty minutes, without being attended or followed by the headache, loss of appetite, or nausea, which are so frequently the result of the use of opiates in any other way, even by injection into the rectum. This latter mode of administering opiates has hitherto been my sheet-anchor in the treatment of uterine spasms and pain, and is certainly most efficacious; but it is not unfrequently attended by all the above-mentioned drawbacks, from which the hypodermic injection appears to be singularly free. In nearly all the instances in which I have tried this mode of introducing opiates into the system, the sedative result alone has been produced: there has been no subsequent bad effect whatever.

In one case of severe uterine torments and pain, the result of arrested menstruation from cold, I injected thirty minims of the solution of morphia. In half an hour the pains, which had been agonizing for the previous twenty-four hours, were calmed. A good night's rest followed; and the next morning the menses had resumed their course, and my patient was all but well. In another similar case, the uterine pain was accompanied by severe hysterical symptoms. The injection was followed by the same favorable result—ease, sleep, and a rapid disappearance of all morbid symptoms.

Owing to the complete control over the element of pain which the hypodermic injection of opiates appears to give, I have been able to carry on the necessary treatment in an interesting case of uterine disease, which I should otherwise have been obliged to

treat under chloroform, or at a great disadvantage. The patient, a young German lady of twenty-four, came to Mentone last autumn, by direction of her medical attendants, with the view of spending the winter in the South. She was considered to be suffering from neuralgia, facial and general, and from nervous irritability of the system in general. She had been traveling with her husband from place to place, and from bath to bath, in the search for health, for more than two years. On being consulted, I recognized the existence of a host of uterine symptoms, and found that the neuralgic and nervous illness had manifested itself after a severe confinement which had occurred about three years ago. The discovery of extensive inflammatory ulceration of the neck of the womb gave the key to the state of ill health. Singularly enough, none of her previous medical attendants had suspected the uterine origin of the neuralgia. Such cases are always very difficult to treat —interference with the uterine lesion all but invariably rousing the neuralgia. I have repeatedly had cases of the kind that I could only examine and treat locally by giving chloroform to the full surgical extent on each occasion, and this I have had to do twenty or more times in the same patient.

With the patient in question the surgical treatment of the ulceration was borne tolerably well at first, but as the diseased surface became more healthy, and consequently more sensitive, endurance diminished. Every time the sore was touched, severe neuralgia followed, and the general health began to flag. In former days I should have suspended all treatment, and have sent the patient to the country for a couple of months, to allow the nervous system to calm down, and to let nature do her best. In this instance such a course was not desirable, my patient being very anxious to continue the necessary treatment so as to be locally cured before we separated in the spring. I thought, therefore, of the hypodermic treatment, and tried the injection of thirty minims of the solution of morphia immediately after each uterine dressing. This course was attended with complete success; no neuralgia ensued, and I have been able to continue uninterruptedly the treatment now all but brought to a successful issue. On one occasion I omitted the precaution, and was sent for at ten o'clock at night. I found the patient a prey to a most distressing attack of facial neuralgia, which had come on an hour before. She was positively convulsed and shrieking with agony. Chlorodyne, sulphuric ether, &c., had

been taken, with no relief. I injected the thirty minims of morphia solution, and in twenty minutes she was calm and free from pain. It was repeated next day, and the facial neuralgia has not returned. This lady will no doubt gradually recover her health and get rid of the neuralgia when the uterine disease is thoroughly cured.

In case of pure neuralgia, attacking first one and then another part of the body, I have injected from twenty to thirty minims of the acetate of morphia solution forty-two days in succession, without any unfavorable result. The neuralgia, which was very severe, was entirely subdued by it for about eighteen or twenty hours, when it reappeared, gradually increasing in intensity until the injection again relieved it. At the end of that long period the pains gave way, the treatment having been either curative, or having allowed the neuralgic attack to wear itself out. During the entire period of treatment, the patient, a very delicate lady, slept better than usual, ate as well (her appetite being usually bad, and the digestive powers weak), and was able to take part socially in all that was going on around her. No one, indeed, was aware, except her family, that she was suffering from so painful a malady. To my surprise, I was able to suspend the morphia suddenly, without any of the distress and discomfort which is habitually observed when opiates have been long used and are abruptly abandoned.

From what I have seen of the hypodermic system, I believe that its use is capable of great extension in the treatment of pain generally. I consider that the injection of a solution of morphia after any operation would deaden pain, and produce a general calm of the system both soothing and beneficial to the patient. I think also that this result might be obtained in most cases without the small drawbacks of opiates taken internally.

Some years ago I recommended in the *Lancet* the injection of opium into the rectum, as a means of modifying and even arresting obstinate sea-sickness. Since then various additional cases have come under my notice illustrating its efficacy. The great difficulty to all medication in sea-sickness is the fact that the stomach absorbs fluids with difficulty. By injecting subcutaneously, this difficulty is got over. Moreover, a subcutaneous injection would be managed easier on shipboard than the rectal injection, to which most people have a very natural antipathy.

I have used all but exclusively a solution of acetate of morphia

in distilled water. Nine grains dissolved in two ounces of water gives a strength about equivalent to that of laudanum. The liquor morphiæ of the Pharmacopœia contains spirit, and I have found that it constantly occasions small patches of painful inflammation; without the spirit, on the contrary, it appears to be quite innocuous. A moderate sized steel needle or canula I find preferable to the small gold one. The steel canula is sharper, and passes easier through the skin. By pinching firmly the fold of skin that has to be pierced, between the finger and thumb, its sensibility to the puncture is much diminished. It does not seem to matter much, as regards results, in which region of the body the injection takes place. I have principally chosen the præcordial region for uterine and general pain, and for local neuralgia a spot as near to the region affected as possible.—*London Lancet.*

Pregnancy without Emissio-Penis.—Prof. Scanzoni relates the case of a woman, aged 29, in whom he detected a four months' pregnancy, although the orifice of the vagina was closed by a firm and tense membrane, in which an aperture big enough to admit a probe was discovered with much difficulty. In his long experience he had never met with a similar instance, although he has seen cases in which remains of the hymen existed, and one in which this membrane continued quite uninjured. The membrane only yielded slightly upwards, so that emissio-penis was completely impossible, and the question is, how did the semen reach the uterine orifice, four inches distant? After the seventh month the opening gradually widened a little, so that a quill could be easily introduced; and by the time labor set in the finger could be passed in. As the labor advanced, there was found to be also a thin circular membrane attached to the walls of the vagina at the junction of its upper and middle third; but a large opening existed in this, so that it caused no obstruction to delivery. As, however, the thickened hymen formed a dense ring, which prevented the passage of the head, a small crucial incision was performed, and the delivery easily terminated.—*Allg. Wien Med. Zeit.*, No. 4. [Dr. Mattei, in *Union Médicale* No. 36, relates a similar case of a woman who became pregnant after having been married 11 years. The husband was aware that she was malformed, but had contented himself with incomplete connection. On

examination, a cul-de-sac was found, which, probably formed through the attempts at copulation, only admitted the finger to the extent of $1\frac{1}{2}$ centimetre. The most careful examination by means of the speculum could not detect the aperture by which the semen must have entered. After severe labor for three days, the tissues in front of the head gave way and admitted the finger. Delivery was completed by the forceps.]—*Med. Times & Gaz.*, May 28, 1864.

New Article of Alimentation.—M. Prevet has recently made some communications to the French Academy in reference to his attempts at introducing *karouba* as an important article of alimentation. A leguminous plant, which especially thrives on the shores of the Mediterranean, the *ceratonia siliqua*, produces a pod, the beans (*karouba*) of which form a common article of nutriment in Algeria, Italy, Spain and Egypt, but which are unknown in France, except to botanists and chemists. Individuals and animals fed upon it in these countries exhibit all the signs of good health, in place of those indications of defective nourishment so often met with among the poorer classes of large cities. M. Prevet, as the result of numerous experiments, has succeeded completely in the torrefaction of the bean, and has produced a substance of most agreeable odor and taste, infinitely superior to the chicory so much used by the lower classes in France, and, in some respects, to be preferred to coffee itself. It does not stimulate like this latter substance, and it is thus better fitted as an article of diet for women and children; while, as its nutritive properties are very considerable, it is well suited where reparative tonics are indicated. It can be sold at a very low price.—*Med. Times and Gaz.*, May 14, 1864.

Preservation of Chloroform.—It requires but a short time for chloroform which is exposed to the sun's rays to undergo decomposition, hydrochloric acid being developed, and a strong odour of chlorine being present. This is prevented if the chloroform is kept in the dark; and when it has undergone decomposition by exposure, M. Boettger finds that it may be easily purified by shaking it up with a few fragments of caustic soda. As long, indeed, as it is in contact with the caustic soda it may be preserved for an indefinite period in diffused light.—*Med. Times and Gaz.*, May 28, 1864, from *Bull. de Thérap.*, May 15.

An Ounce of Quinine Administered by Mistake.—Dr. Taussig, of Rome, relates (*Med. Times and Gaz.*, April 23, 1864) the following case of this :

“ Dr. Hayler, a military surgeon, visited in barracks a soldier, suffering from a relapse of ague, and administered to him a small dose of sulphate of quinine. At the same time he directed a man to fetch one ounce of the same remedy from the hospital, in order that he might have it in readiness for any emergency. The man received the bottle ; but, supposing that it was ordered for the patient just mentioned, he took it to him. In the presence of their comrades, they put the whole into a cup, adding sufficient water to make a paste of it ; and the patient, although he found the medicine uncommonly bitter, did not leave off until he had taken it all.

“ Dr. Hayler, on learning that this enormous dose had been taken, at once visited the patient. The most careful investigation left no doubt of the fact ; but, with all that, *incredibile dictu*, except a complete deafness and a kind of stupor, no other bad effect ensued, and no antidote was administered. He was directed to the hospital, where he remained a week under observation, and left the establishment in the best state of health. The ague disappeared, probably never to return. I saw the man myself; he is a Swiss, named Albitz, aged 30, of small stature, and of a strong constitution.”

University of Pennsylvania.—Dr. Alfred Stillé has been elected Professor of the Practice of Medicine in this institution, to fill the chair recently become vacant by the resignation of Dr. William Pepper. Dr. Stillé is a highly educated and accomplished physician, an erudite scholar, and an elegant writer, and he will, we feel confident, perform the duties of his position with eminent ability.

Jefferson Medical College.—Dr. B. Howard Rand has been elected to the Chair of Chemistry in this school, rendered vacant by the death of Dr Franklin Bache. Dr. Rand is an excellent chemist as well as an experienced lecturer, and will fill the position with advantage to the school.

Formula for a Solution of Bromine. By Dr. J. LAWRENCE SMITH, Professor of Chemistry in the Medical Department of the University of Louisville.

The frequent demand for bromine from the Louisville Chemical Works, which are under my direction, induced me to inquire for what purpose it was used, and I learned that it was being employed as a therapeutic agent, especially in the form of vapor mixed with air as a purifier of the atmosphere of hospitals, where erysipelas, gangrene, small-pox, &c., existed, and also internally in certain affections of the throat. Knowing full well the inconvenience of the use of the substance in the form called for, I at once undertook to compound a solution which would meet the ends required, and be more convenient for any therapeutical use to which uncombined bromine might be applied. From the slight solubility of bromine, any attempts to dissolve it in water would give too dilute and bulky a solution, the natural suggestion, therefore, was to use but little water and facilitate its solubility by adding bromide of potassium; at first the following proportions were used:—1 troy ounce of bromine, 120 grains bromide of potassium, and 1 fluid-ounce of distilled water; the formula left a small quantity of bromine undissolved, and the solution was too concentrated. After varying the proportions in different ways, I have settled on the following as the most convenient formula:—

R.—Bromine, 1 troy ounce; bromide of potassium, 160 grains; distilled water, q. s. to make four fluid-ounces of the whole mixture.

Dissolve the bromide of potassium in about two fluid-ounces of water in an eight ounce bottle, then add the bromine, agitate gently until the solution is complete, then add water enough to bring the whole to four fluid-ounces.

This mixture forms a very dark red solution, evolving strong fumes of bromine, and readily soluble in any additional quantity of water.

I have given this formula as one that will doubtless recommend itself to those of the medical profession engaged in using bromine, and it is already being used by the medical profession of this place.—*American Journal of Medical Science, April, 1863, p. 385.*

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Original Communications.

Murder Trial.—Death from Strychnine. Tried before Hon. Wm. LAWRENCE, Judge. Reported by Judge LAWRENCE and Prof. T. G. WORMLEY, M.D., of Starling Medical College, Columbus, Ohio.

COURT OF COMMON PLEAS OF UNION COUNTY, OHIO—APRIL TERM, 1864—STATE OF OHIO *vs.* LOTHROP CONVERSE.

The defendant is indicted jointly with Mary Freet, for the murder of Wm. Freet by strychnine poison, alleged to have been administered February 13, 1863.

Mary Freet was tried at March Term, 1864, and a report of the case is published in the XVI. Vol. of the (Columbus) "Ohio Medical and Surgical Journal," 95-191, March and May Nos., 1864.

The evidence in this case against *Lothrop Converse*, is in most respects substantially as there published.

John B. Coats and John D. Van Deman, for the State.

Chauncey N. Olds, James W. Robinson, and P. B. Case, for the Defendant.

During the progress of the examination of Mary Freet as a witness, counsel for defendant asked this question—

"State whether after the return of Wm. Freet [the deceased] from Harper's, on that day [February 13, 1863], he had any con-

versation with you in which you understand him to refer to his own death."

Van Deman, for State, objected, and cited *Van Deman v. Turner*, 12 Pick. 532; *Gray v. Goodrich*, 7 Johns R. 95; *State v. Ridgley*, 2 Harris and McHenry, 120; *Wilson v. Boerem*, 15 Johns, 286; *Kirby v. State*, 9 Yerger, 383; *Strange v. Donahue*, 4 Ind. 327; *Croff v. Ballinger*, 18 Ill. 200; *State v. Shelton*, 2 Jones (Law) N. C. 360.

He then reviewed the cases cited in *State v. Freet*, XVI. Col. Med. and Surg. Jour. 110.

Olds, contra, cited *State v. Freet*, above referred to.

By the court: The object of this question is to elicit evidence that Wm. Freet made declarations tending to show an intention to commit suicide.

While it is urged on one side, that no decided case or elementary treatise can be found to authorize such evidence, it is properly said on the other, that none can be found denying its competency. We are left in doubt therefore whether the question is so clearly competent as never to have been objected to, or so clearly incompetent as never to have been insisted on.

The question is, therefore, left to be decided on principle.

If it could be shown that Freet voluntarily took poison, that would be competent as an act consummated.

The evidence of an intention, not consummated by an act, would of course be less satisfactory, because, if it could be proved by declarations, the purpose might never be carried into execution.

Such declarations lack the solemnity and sanction of an oath; they are sought to be used on an issue to which Freet is not a party, and they are not explanatory of or accompanying any act done so as to become a part of the *res gestae*, and as the evidence is offered to bind the *State* without having these sanctions, or falling within these principles, its competency is by no means free from difficulty. Such evidence certainly would not be competent to prove any *external fact*, for, as to *that*, it would not rise above the dignity of hearsay.

It will readily be conceded that it is a material inquiry to know whether Freet committed suicide. Whether he did so or not is a *fact*, and that fact is more or less probable, as he did or did not have a *purpose* to commit suicide.

If he had, shortly before his death, made his last will and testament, paid his debts, and made the arrangements which men, conscious of approaching dissolution, usually make, these would be *facts* competent to be considered in determining whether he expected death from natural causes, or intended to die by his own hand; these would rest upon the same ground as the voluntary taking of poison, except only that the latter directly proves suicide, while the former only tends to prove an expectation of death or an intention to commit suicide.

Now the intention to do an act may be as directly, if not as unequivocally, proved by declarations indicating the purpose of the mind as by acts evincing the same thing.

Suicidal insanity is a fact, yet it is proved as well by what the monomaniac says, as what he does. In all cases where a particular state of mind is material to be proved the usual expressions of such feelings made at the time are original evidence, when so proximate to the main fact in controversy, as to be essentially connected with it.

The question, therefore, may be asked, and the answer if proper may go to jury, not as evidence to prove the *fact of suicide*, but as evidence of a *purpose*, which, with circumstances relative to the death and tending to prove a suicide, may render it more or less probable.

The evidence only becomes admissible because of the circumstances which have gone to the jury and may connect Freet with some agency in his own death. If the jury should be unable to find upon the evidence that Freet himself did some act which might connect him with the suicide, then the evidence of intention must be rejected.

This view is supported by what is said in Wills on Circumstan

tial Evidence, 45, though the immediate subject considered was somewhat different. The author says :

" It is not uncommon with persons about to engage in crime to utter menaces, or to make obscure and mysterious allusion, to purposes and intentions of revenge, or to boast to others, whose standard of moral conduct is the same as their own, of what they will do, or to give vent to expressions of revengeful purposes, or of malignant satisfaction at the anticipated occurrence of some serious mischief. Such declarations or allusions are of great moment, when clearly connected by independent evidence with some subsequent criminal action. The just effect of such language is to show the existence of the disposition from which criminal actions proceed, to render it less improbable, that a person proved to have used it, would commit the offence charged, and to explain the real motive, and character, of the action. But proof of such language cannot be considered to dispense with the obligation of strict proof of the criminal facts; for though malignant feelings may possess the mind and lead to intemperate and criminal expressions, they nevertheless may exercise but a transient influence, without leading to action." (Sec. 3 Bentham's Ind. Ev. bk. 5 ch. 4.)

It is impracticable to publish *all* the evidence given on the trial, but the following comprises some of the material portions of it:

J. G. Humpshire—Reside in Unionville. Saw Freet the night he died; went in about 9 o'clock in the evening. Freet was lying on his back, with his hands holding on to the bedstead above his head. Old Freet asked me to go for a doctor. I sent Orson Converse for Dr. Converse. The Dr. came after his death. Dr. Cartmell was in when I went in. Old man Freet went after Lothrop Converse, who came in soon after; others also came. His breathing was short and difficult. There was a stove in the room; warm cloths were applied to his head and chest. The shoe-shop of Converse is over the store of Dunnifee, nearly opposite Freet's house. The shop has three windows in the front; the stairway is on the outside on the east of the store. Culver Harper came to me in the evening, and we went to Converse's shop to get him to help us open the coffin containing the corpse of a deceased soldier just brought home. Converse was working at his bench, and as soon as he got done he and Daniel Furgeson came over; it was about candle light when we went over to the shop; I waited at my house till they came over. We went to Harper's together, and remained there from one-half to one hour; then Converse and I returned to Converse's shop to put out the lights and close the doors. We re-

mained at the shop 15 or 20 minutes. On our way across the street Converse remarked that Freet was very sick. When near Freet's, I believe, I asked Converse if he would go into Freet's, and I think Converse said "Freet is jealous of me." He did not go in, but I went in. There was a light in Freet's house at the time. No noise before I went in. Before he died he said "that's what's the matter with the horse." Mrs. Freet, after a short time, threw herself on the couch by her little boy, where she lay until Freet's death. There was noise as I was going in, but not before.

Dr. Jeremiah Converse—Am physician. Acquainted with defendant, and visited the deceased on the 13th of Feb. 1863. He was laboring under premonitory symptoms of pneumonia. Left him six powders of Dover powder and calomel; also a solution of tartarized antimony and powders to be taken every three hours, and liquid between the powders. Did not arrange to return, not supposing he would need more medicine, I left about 3 o'clock; was called back about 11 that night, when I found him dead. The Dover powder was composed of opium, ipicac and sulphate of potash, not poisonous as administered. Solution was not deleterious; have not had any deadly poisons about me. Was present at the post-mortem. There was much swelling around the head and face; we opened the chest, found the lungs sound but gorged with blood in fluid state; stomach was sound, except in the lower part was some inflammation indicating violence; heart and brain examined—all found in a healthy state. The stomach and contents, the heart and serus blood, and the bladder were each placed in separate jars, sealed and delivered to the Coroner. Some time previous to the death of Freet, probably six weeks before, while at Converse's shoe-shop, when I was dealing out for Converse some medicine in powder, a conversation arose between us about poison; cannot state the whole conversation, nor how it arose. Converse casually asked, I think, how much strychnine it would take to kill a man. I took my knife and separated off of the powder about half to one grain, about one-fourth the size of the Dover

powder left with Freet. There was something said about the color; told him it was white; something was said as to which was most speedy in its effects, strychnine or arsenic. On the evening before Freet's death, while at the tea table of Converse, a conversation arose between myself and Converse and his wife about poison; could not tell who commenced the conversation. In reply to the inquiry of some one, perhaps Converse, I told the color of strychnine; some one, perhaps Mrs. Converse, or Mrs. Beard, who was present, said "I told you so." I supposed from the conversation that some previous conversation had taken place between them. Nothing in manner or matter of the conversation at the time which attracted my attention. There was some reference in one of the conversations to the case of Burnham who had some time previous thereto taken strychnine in that vicinity by mistake for opium and died in a few minutes. I put the powders in some newspaper furnished by Mrs. Freet. We generally put up powders in paper furnished at patient's house.

John Qualy: Reside in Columbus, Ohio. In February, 1863, was working for Henry Wilson, in his drug store, on south-west corner of High and Broad streets. Sold a package—a drachm of strychnine, on the 13th of February, 1863, to a stranger. {Recognize Converse as the man. He asked if we sold strychnine to a country physician, in small quantities. I said "No." I told him Mr. Wilson forbid the sale of it except on prescription, or by wholesale. He said I might sell it to a country physician, as he needed it. I finally told him if he would give a dollar, he might have the package, which was marked 65 cents, and in an ounce vial. I waited on three or four customers while he was in. George Groat was in at the time. I next saw him in the court-house the day of the preliminary examination of Converse, after Freet's death, about a week after the sale. I recognized him as the same man. Was porter in the drug store, but sold medicines in packages, and sometimes by prescriptions. Have been a policeman, and am now laboring at the State arsenal as a helper. Admit I refused

to visit the jail where Converse was imprisoned, to pick him out of the crowd; but refused because I knew I could identify him anywhere, and would not act the spy on him. Did not know how many were in jail with him. First saw him after he had been brought into the court-house, and recognized him there. Deny that I gave a description of the person, to whom I sold the poison, to Geo. L. Converse, or to Simon Tompkins, before I had arrived at Marysville, the day of the preliminary examination. Think I did say on the preliminary examination that I did not consider myself good in recognizing countenances. There is a clothing store kept south of drug store—next door.

Peter Bland : Went to Columbus, Ohio, February 13, 1863, on same train Converse went. Walked with him up High Street to within one hundred yards of Broadway, when, in passing some ladies, we separated, he getting in advance of me. He went into the first or second door, I think, after crossing Broadway. The first door is a drug store and the second a clothing store. I went on to Savage's jewelry store, and remained about ten minutes, and when I came out Converse was going on ahead of me, about two rods. He returned home that evening on same train with me, about half-past four.

Uriah Zimmerman : Saw Converse on the evening of the 13th February in the back room over Dunnifee's store. It was about sundown. He was in the north-east corner of the room. He said, "Uriah, have you a cork to fit an ounce vial?" He held something in his left hand with his thumb closed, as if on the mouth of a small vial.

Cross-examined : This room is the one into which the outside door enters from the stairway, and from which he would enter his shop. He had leather there. Dunnifee used the room as a kind of wareroom for boxes, &c.

J. S. Conklin : About two weeks before Freet's death, was in Converse's shop, doing some mending. A conversation arose about poison. Can't tell how it arose. Converse asked what was the difference between strychnine and arsenic. I said there

was a difference, but did not know what it was. Converse wanted to know which would kill anything the quickest. I answered, I thought strychnine would.

Cross-examined : Can't tell who was present, nor how the conversation commenced. Had no other conversation about poison.

Jordan Reams : Went to Columbus with Converse about the 12th of January, 1863. He bought some leather while there. He told me to take the leather and go on, and he would stop a little bit. He went into a drug store, and I followed along after him. He asked for ten cent's worth of arsenic, for a neighbor, who wanted it, he said. He said they wanted it to kill rats. They refused to sell it to him, saying they did not sell it except prescribed by a physician. This was on High Street.

A. F. Wilkins : Can state the testimony of Lieut. A. A. Dockum, which he, while living, gave at the preliminary examination before me :

He said Converse visited his office in Columbus on the 13th of February, 1863, in obedience to a letter requesting his presence there that day. After the business was talked over, a conversation arose in which Converse remarked that Freet was very sick; that Freet had said that he never would go back to the army; and Converse added, that he (Converse) would not be surprised if he (Freet) would kill himself.

On cross-examination, Dockum had, on that occasion, testified that he (Dockum) told Converse of what had happened between himself and Freet at Columbus, the Tuesday previous, viz., that Freet requested Dockum to go and see the Adjutant-General, and ascertain whether Freet was bound by his enlistment and must go back to the army; that when Dockum came back, he took Freet into the back room of his office, and told him that the General decided that he must go back to the army, and Freet turned pale, and his countenance fell." This matter Dockum told Converse before Converse said he would not be surprised if he killed himself.

Converse arrived at my office on High Street just about the time I expected him, and about as soon as he could have arrived from the cars. Would not be positive whether Dockum testified that Converse or Dockum commenced the conversation about Freet, but thinks Dockum said he commenced it.

C. W. Barlow : On the Monday after Freet's death, Converse paid me for his coffin, saying Mrs. Freet gave him the money. That while writing the receipt, heard a conversation between Converse and others, in which Converse said he supposed Freet had killed himself, for he had threatened that he would die before he would go back to the army. He also said the people generally supposed he had killed himself.

Cross-examined : Three of the physicians of Pleasant Valley, where this conversation took place, had been up to the post-mortem examination and inquest, and at least one, if not all, had returned. It was generally known that it had taken place, and was the subject of general conversation.

Adam Woolford : Had charge of the coroner's jury at the inquest as constable. About seven or eight in the evening, I stepped to the door next the street and opened it, and saw a man about eight or ten feet from the door on the street, stepping off as if he had been at the door. I spoke, and it was Converse, and he seemed somewhat agitated when I talked with him. He asked if he might not be in, and, in the conversation, asked whether the jars would have to be sent to Columbus.

Cross-examined : The crowd had been hanging around all day and during the evening. Had been passing back and forth, and perhaps a very few, besides the jury and witnesses, were inside. There was no other person in sight of the door at the time. The blind was over the window, so no one could see in.

Mary E. Freet (one of defendants acquitted on former trial)— Am the widow of Wm. Freet. After the train came on the evening of the 13th of February, 1863, about half-past four o'clock,

Converse came in our house ; Freet was lying on the bed in the south-west corner of the front room ; the safe stood in the south-east corner ; I sat near the front window ; the powders were on the safe, about its middle ; Converse stood by the safe, about five or six feet from the bed, fronting his face to the bed, at the corner of the safe, and his left elbow on the safe.

While in, he paid Freet a little money he had borrowed in the morning, saying he had not needed it ; he talked to F. some ten minutes or more ; did not have my eyes on him all the time ; did not see him touch the powders ; asked F. if the Doctor had been there ; he said yes ; some talk about the time of taking the powders, and Converse said it will take till six in the morning ; there were five to take ; said he had been to Columbus.

Cross-examined.—Said he had not used the money he borrowed ; the room was small, about twelve feet wide, the door between safe and bed ; he went out at front door ; I think the conversation about the medicine arose by Freet saying the clock was not running, and he would like to get C.'s watch to take the medicine by. Converse then inquired about how it was to be taken, &c., and hung his watch on the nail about one foot from the front door, on the right as we enter it ; the door opens to the left ; he said, before leaving, that the watch would need winding, and he did not have his key with him ; the door is at the north-east corner of the room. I gave husband the first powder about 3 P. M., in a wafer ; the powders were done up in pieces of newspaper—printed paper ; no difference in the paper of the three which were given, nor in the size or color of the powders. The first powder causing some taste, husband fixed the second one himself, I having handed it to him ; saw it poured out ; about 9 o'clock he took the third ; I handed it to him, and he poured it in the wafer on the spoon ; fixed it up himself ; the tumbler of liquid was about the middle of the safe ; I handed the tumbler to him, and he took that himself, in a spoon.

Mrs. Freet—called by Defendant—The Doctor had been there between 2 and 3 o'clock ; husband had been out between 11 and 12 o'clock that day ; he went up to widow Harper's, to see the

corpse of a deceased soldier who had been brought home ; gone ten or fifteen minutes ; don't think he was out any more ; he came back, and was very much dejected, and cried ; I had just completed knitting one sock for him, and requested him to try it on, to which he replied, "No, I shall never need it;" I "might unravel it and knit it for Bunny" (our little boy). On the Sunday previous to his death, in the evening he and I were singing some hymns in our house ; he turned a leaf at one of the hymns we sang, and requested that I should have it sung at his funeral. He went to Columbus on the 9th of February, and returned on the 10th ; on the 11th, I asked him, as he was going out, for some money ; instead of giving me his pocket-book, as had always been his custom before, he took out the money and gave it to me, and kept the pocket-book himself. He had a sick spell about midnight that night.

Cross-examined by State—At the time he requested me to have the hymn sung at his funeral, there was nothing unusual in his manner, and I thought nothing of it at the time.

Saul Bland—A few days before Freet's death, I saw Freet at Unionville ; asked him when he was going back to the army ; he said he was not going back to the army ; he said he had never been paid nor mustered in, and he was not going to go back ; I asked how he would help it ; he said, "I'll help it ; I'll die in my own door-yard before I will go back."

Ormel Pyers—Saw Freet on Thursday previous to his death ; were together chopping a load of wood ; says I, "William, why did you not report at Columbus the other day?" He said, "Because I did not." "But," says I, "why not?" "I have reported all I am going to ; I don't think I will go back to the army alive."

Orson Converse—Heard the conversation about poison in Conklin's presence ; when I entered the shop, Conklin was sitting on Bailey's bench, and the crowd was talking about rats ; Converse (defendant) said he must work some plan to get rid of the rats, for they were about to eat him out of house and home ; some one asked him why he did not trap them ; he replied, he had tried, and

failed; some one asked, "Why don't you poison the brutes?" He then asked what would be the best; "strychnine or arsenic;" and asked what was the difference between them, and some one replied, arsenic was best, and most commonly used.

The chemical evidence given in this case, of the presence of strychnine in the body of Wm. Freet, was essentially the same as that given in the case of State of Ohio *v.* Mary Freet, as detailed in Ohio Med. and Surg. Journal, March, 1864, pp. 118—138.

JOHN B. COATS, Prosecuting Attorney, and JOHN D. VAN DEMAN, for the State, made and argued the following points:

Defendant had the *motive* for the murder, the *means*, and the *opportunity*. 3 Greenl. Ev. Sec. 135.

I.—The defendant indulged an improper intimacy with the wife of the deceased, and there was a *motive* to remove the husband.

II.—He bought strychnine for some purpose on the day of Freet's death, and had the *means* to kill. This is proved directly by John Qualey, who sold it, and has no *motive* to falsify. The fact of the sale is *corroborated*.

1. Peter Bland, Wm. Dunifee, J. D. Robinson, all saw him in Columbus on that day, and Bland saw him go in at the first or second door of the corner building where the drug store was located in Columbus, and where Qualey says he sold him the strychnine.

2. This is rendered probable by all the facts, showing the purpose of defendant to kill Freet.

III.—The defendant had a *purpose to kill* Freet.

1. About six weeks before Freet's death, he asked Dr. Jeremiah Converse which was most violent, arsenic or strychnine, and was informed that strychnine was. He then asked the Doctor how much it would take to kill a man, and he was shown the quantity.

2. Again, on the evening of the day of Freet's death, he asked Dr. Converse what was the color of strychnine, to which the Doctor replied it was white.

3. About ten days before the death, he asked J. S. Conklin

which was the most violent, arsenic or strychnine, and which would kill a person or a thing quickest, and was informed that strychnine was the most fatal.

Jordan Reams testifies that on the 12th January, 1863, the defendant, at a drug store in Columbus, asked a druggist to sell him ten cents' worth of arsenic, saying that a neighbor sent for it to kill rats, but he was informed he could not buy unless on the prescription of a physician. Yet no neighbor proves he sent for arsenic. This probably induced him, on the 13th February, to inquire if Qualey would sell to a "country physician," though the defendant was not such, but followed the business of making boots and shoes.

4. He was at Freet's house about 4 P. M. on the day of the death, and leaned on the safe where the Dover's powders were, and had the opportunity to insert strychnine. Again, in the evening, he was at the house for some purpose.

5. Uriah Zimmerman testifies that on the evening of the death, defendant was in the room back of defendant's shoe-shop, which is over Dunifee's store; had his hand closed and his thumb down on it; and as witness went in, defendant asked, "Have you a cork to fit an ounce vial?"

The strychnine was bought that day in a vial.

6. Lester W. Ketch testifies that on the afternoon of February 13, after Converse's return from Columbus, Converse was in his shop, sitting on his "hunkers," with his thumb and forefinger in his left vest pocket, feeling for something in his pocket, and witness heard a sound like rustling of paper. This we claim was the poison.

7. On the day of the death, Lieutenant Dockum saw defendant in Columbus and had a conversation with him about going back to the army. Converse said Freet would not go back, and he "would not be surprised if Freet would kill himself."

IV.—Defendant's conduct indicates guilt.

1. Adam Wolford was at the coroner's inquest held on Freet's body. About 7 P. M. defendant was alone outside of the building,

and moved off when witness went out, but when overtaken asked if the stomach would have to be sent to Columbus.

2. On Monday, after Freet's death, defendant said to C. W. Barton that he supposed Freet killed himself, for he had threatened that he would die on his own door-step before he would go back to the army; and the general impression was that Freet had killed himself.

The fact is, there was no such rumor.

V.—There is no reasonable evidence of suicide.

1. Freet never said he would commit suicide. If he had done so, he would have made the usual preparation for death.

2. His declaration that he would die in his own door-yard before he would go back to the army, only gave evidence of a purpose to resist being taken back when he had never been mustered into the service.

3. The remark he made to his wife that he would never need the socks she was knitting for him, is accounted for by her evidence that he had dyspepsia, was low spirited, and had been unwell; that he was melancholy from having seen the corpse of a soldier that day so changed it could not be recognized.

4. He would not have employed a physician and taken his medicine if he meditated suicide. But he did this; and when seized with convulsions urgently sent for a physician and evinced anxiety to live. If he had knowingly taken poison he would have confessed it.

5. There is no evidence that he had poison or that he took any thing but what was given to him.

6. As a question of law, evidence of declarations are insufficient, unless there be other and satisfactory proof of the *fact of the suicide* and its *means*.

Chauncey N. Olds and James W. Robinson for defendant.

THE COURT, WM. LAWRENCE, *Judge*, then read to the Jury the statute defining murder in the first and second degree, and manslaughter, and the indictment, and proceeded to charge substantially as follows :

GENTLEMEN OF THE JURY:—The indictment in this case charges the defendant with murder in the first degree, by administering strychnine poison to Wm. Freet on the 13th day of February, 1863, at Union county.

The defendant pleads—"Not guilty."

You are, therefore, to decide the issue whether he is guilty or not guilty of the crime charged, or of any grade of homicide. The law presumes every man innocent until his guilt is established by proof, and this can only be legally done by evidence which makes it manifest beyond a reasonable doubt.

For this purpose it must exclude or disprove every hypothesis consistent with innocence. If the evidence of guilt consists of a chain of circumstances, and there is a reasonable doubt of any one of them material to a conviction, that one should have no influence in making up your verdict. *Sumner v. State*, 5 Blackf. 579, 3 Greenl. Ev., sec. 29n. Every material fact must be proved beyond a reasonable doubt. 5 Cash. 296, 319.

[The Court here stated the rules of law as to reasonable doubts, and the rules of evidence applicable to the case, substantially as in *The State v. Mary Freet*, XVI. Columbus Medical and Surgical Journal, 96–190, May and June Nos., 1864, and in *Robbins v. State*, 8 Ohio State R., 148.]

The Court then proceeded to charge the Jury, as follows:

Having ascertained the rules of law by which you will be guided in considering the evidence, I now direct your attention to other considerations.

In ordinary cases of murder it is well understood that, where the evidence is such as to warrant it, the Jury may find the accused guilty of murder in the first degree, or murder in the second degree, or of manslaughter, or not guilty of any crime.

The 39th section of the Act of March 7th, 1835, "providing for the punishment of crimes," provides that, if the Jury find the prisoner guilty, they "shall ascertain in their verdict whether it be murder in the first or second degree or manslaughter."

In a case of murder by intentional poisoning, with a purpose to

kill, resulting in death from the poison, it may perhaps be very difficult to conceive how the crime could be murder in the second degree, or manslaughter, or any thing less than murder in the first degree.

But by the law as settled in this State it is your duty, if you find the defendant guilty, to ascertain in your verdict whether he be guilty of murder in the first or second degree or manslaughter.

If the evidence shall make a case only of manslaughter, or murder in the second degree, your verdict may be accordingly.

But this power to determine the grade of homicide confers no legal or moral right to disregard the law or your duties under it. It is a power which you are legally bound to exercise in accordance with the rules of law given you by the Court.

You will understand I do not design to indicate any opinion as to whether any crime has been committed by the defendant, or if so, what the grade of the homicide may be, for these are matters within the province of the Jury alone. But, as it would be a misfortune, a wrong, if not a reproach to the administration of justice, that an innocent party should be convicted, so it would be a wrong, giving immunity, if not encouragment, to murder in its most fearful and dreaded form, if the evidence should make a case of murder in the first degree, and, notwithstanding that, the Jury, through misapprehension, mistake, or even from motives of humanity, prompted by a departure from duty, should improperly acquit the defendant, or reduce his crime to murder in the second degree, or manslaughter, unless such be the legal result of the law and the evidence.

To authorize a verdict of guilty of murder in the first degree the material facts to be proved are these :

I.—That William Freet is dead, and that his death occurred before the finding of this indictment.

II.—That the death was caused by poison.

III.—That the poison causing the death was administered to Wm. Freet by the defendant.

IV.—That it was so administered in Union county.

V.—And, finally, that defendant so administered it, knowing it to be a deadly poison. (2 Ohio State R., 75.)

There are other ingredients of the crime, but, in the absence of proof to the contrary, they are presumed from proof of the existence of the particulars already stated, and therefore require no farther or other evidence of them.

They are :

I.—The purpose to kill.

II.—Premeditation as applied to such purpose.

III.—The unlawful administration of the poison.

IV.—In a dose poisonous and deadly in the particular case.

If any one of these are absent, or if on the whole there is a reasonable doubt of the existence of any one of these, there can be no conviction of murder in the first degree.

V.—And, finally, though deliberate and premeditated malice is not made a statutory descriptive element of the crime, yet in fact, "in homicide committed in administering poison, the turpitude of the felonious act is made"—in legal contemplation—"to supply the place of deliberate and premeditated malice," and so it is really an element of the crime. But sufficient proof of it is furnished when the evidence shows an unlawful administration of poison with a purpose to kill, and resulting in death.

If, therefore, the evidence in this case shows that the defendant administered strychnine in a fatal dose to Wm. Freet, knowing it to be such, with a purpose to kill said Freet, and that his death resulted therefrom as charged, the law presumes from these facts a premeditated purpose to kill, which carries with it deliberate and premeditated malice, and the crime is murder in the first degree ; in such case it can be no less.

If it should be proved that the defendant administered strychnine to Wm. Freet, knowing it to be such, and that death has resulted therefrom, a presumption arises, in the absence of any other

proof, that the defendant intended to kill.—*Farrer v. State*, 2 Ohio St. R. 75.

Murder in the first degree is simply homicide effected by unlawfully administering poison, knowing it to be such, with a premeditated purpose to kill, which necessarily carries with it deliberate and premeditated malice.

If upon the evidence you find the defendant guilty of murder in the first degree, you need not extend your inquiries further, but return a verdict accordingly.

If, however, you do not find him thus guilty, you will proceed to inquire, is he guilty of murder in the second degree?

Murder in the second degree is an intentional malicious killing, but without deliberation and premeditation.

The only difference between murder in the first and second degree, by *poisoning*, therefore, consists in this: that in the first degree, a premeditated purpose to kill is essential, and there is necessarily deliberate and premeditated malice implied from the unlawful administration of poison with each intent; while in the second degree, the purpose to kill is requisite, but not a *premeditated* purpose, and *malice* simply, is, by the statute, made essential, but not *deliberate* and *premeditated* malice.

If, therefore, every fact exists necessary to constitute murder in the first degree, except only that the *premeditation*, as applied to the purpose to kill, is disapproved, or if there is a reasonable doubt of its existence, then you can find the defendant guilty only of murder in the second degree. And in murder in the second degree, there is *malice*, but not *deliberate* or *premeditated* malice.

But in law,

“A killing purposely by means of administering poison, does within and of itself import and include deliberate and premeditated malice.”—8 Ohio St. R. 185.

I will say to you, therefore, as *Waite I.* said, in *State v. Dowd*, 19 Conn. R. 391:

—"If any case can be supposed where murder may be committed by means of poison, and not be the result of such an act [deliberate and premeditated malice], then a conviction of murder in the second degree may be legal."*

But, you will bear in mind, a premeditated purpose to kill, is conclusive evidence of premeditated malice.

* In the case of *State v. Mary Freet*, XVI. Vol. Columbus Medical and Surg. Jour., May, 1864, page 190, I have given my reasons for believing there can be no such thing in Ohio as murder in the second degree by poisoning. If there can, the reason must be, because *deliberation* and *premeditation*, as applied to *malice*, is necessary, but *may not exist*, or because *premeditation*, as applied to the *purpose to kill*, is necessary, but *may not exist*.

Now, *malice* is not by the *statute* made an element of the crime of murder in the first degree by poisoning, but it is in fact an inseparable attribute of every unlawful administration of poison with intent to kill or even injure.

In *Robbins v. State*, 8 Ohio St. R. 187, the court properly held, as the *statute* clearly imports, that "*malice* is not *made* essential in order to constitute the *crime*" of murder in the first degree by poisoning, though a *purpose to kill* is. With the exception therefore, that a *purpose to kill* is a part of the crime, it is in all other respects made to depend exclusively upon the *means* causing the death—upon the *fact of poisoning*.

Now where that is the case, murder by poisoning cannot be reduced to murder in the second degree, by showing the absence of *deliberation* and *premeditation*, as applied to *malice*, because—

1. *Malice* itself, as we have seen, is not necessary ; and,
2. So far as it is an inseparable element, the law conclusively presumes *deliberation* and *premeditation* as accompaniments.

The statute of Tennessee enacts—

"That all murder that shall be perpetrated by means of poison, lying in wait, or any other kind of willful, deliberate, malicious and premeditated killing, or which shall be committed in the perpetration of, or attempt to perpetrate any arson, rape, robbery, burglary or larceny, shall be deemed murder in the first degree, and all other kinds of murder in the second degree."

Murder by poisoning is the same under the Ohio Statute, except that, under the latter, a *purpose to kill* is requisite—the difference not being material to the present inquiry.

The Supreme Court of Tennessee, in construing the *statute* of that State, in 4 Hump. R. 136, cited in *Warton on Homicide*, 365, say :

"In cases of murder, by means of poison, or lying in wait, the most detestable of all kinds of homicide, and the least to be guarded against, either by resistance or forethought, the crime is made to depend exclusively upon the '*means*' causing death. So, likewise, in respect to cases of murder committed in the perpetration of, or attempt to perpetrate arson, rape, robbery, burglary, or larceny ; a class of felonies most dangerous in their consequences to public safety and happiness, which may be most frequently and easily committed, and to which there is the strongest temptation. In all these cases the mode or

If, therefore, you find from the evidence that there was not deliberate and premeditated malice, or that there is a reasonable doubt whether the defendant administered the poison with such malice, the crime can only be murder in the second degree, even though there was a *purpose to kill*, if it was not a *premeditated purpose*.

If the defendant unlawfully administered poison to Wm. Freet, of which he died, knowing it to be such, in a deadly dose, the law presumes therefrom the premeditated purpose to kill, and from these the legal inference of deliberate and premeditated malice arises, and this should not be overlooked by the jury.

From this it will be seen that in murder in the second degree, by poisoning, the essential facts are these :

- I. The death of Wm. Freet before this indictment was found.
- II. That he died of poison.
- III. Administered by defendant.
- IV. In the county.
- V. Knowing it to be a deadly poison.

These must be proved by circumstances or otherwise beyond a reasonable doubt.

'means' of destroying life supplies a CONCLUSIVE legal presumption of malice and guilty intention ; the crime as well as guilt of the agent, is made to depend alone upon the *fact of taking life* in either of the *specified modes*. In such cases the question of malice or intention, as a matter of fact, is wholly irrelevant ; it need not be proved, and *cannot be controverted* by the accused. But the remaining species of murder defined in the statute, namely, murder 'by any other kind of willful, deliberate, malicious and premeditated killing,' falls within the operation of a directly contrary principle. Here the character of the crime and guilt of the agent are made to depend exclusively upon the *mental status* at the time of the act, and with reference to the act which produces death." And see Robbins *v.* State, 8 Ohio St. R. 196 ; per Swan J. ; 2 Hale, 455.

Nor can murder by poisoning be reduced to murder in the second degree by showing the absence of *premeditation*, as applied to the *purpose to kill* ; for the murder statute does not require a *premeditated purpose* to kill, but only a *purpose*. Its language is, "that if any person shall *purposely*," &c. ¶

I prepared the charge to the jury above to conform to what I understand to be the effect of what is said by Barley C. J., in Robbins *v.* State, 8 Ohio St. R. 181.

There are other elements of the crime, as—

- I. The purpose to kill without deliberation or premeditation.
- II. Malice accompanying the purpose and its execution not accompanied with the qualities of *deliberation* and *premeditation*, if that be possible.

But as a premeditated purpose to kill and deliberate and premeditated malice are presumed from the fact of killing by a fatal dose of poison, knowing it to be such, it is the sworn duty of the jury to find the defendant guilty of murder in the first degree, if the necessary facts are proved, unless on the whole evidence such *deliberation* or *premeditation* is disproved, or there is a reasonable doubt of the existence of such deliberation or premeditation.

If you find the defendant not guilty of murder in the first degree, but guilty of murder in the second degree, your inquiries need not proceed further. But if you do not find him guilty of murder in the first or second degree, you will proceed to inquire—Is he guilty of manslaughter?

If the defendant unlawfully but intentionally administered to Wm. Freet, at Union county, strychnine poison of which he died, by means of a poisonous dose and thereby caused his death, but without any intention to kill whether with or without malice, whether the defendant knew its deadly character or not from any evil unlawful motive, then he is guilty of manslaughter—no more, no less.

The evidence might show a poison to be administered to cause sickness, or pain, or in wicked mischief, without any intention to kill, and if in such case death ensued the crime would be manslaughter only.

But it should be remembered that where poison is unlawfully given, knowing it to be such, in a fatal dose resulting in death, the law presumes that there is a purpose to kill unless the circumstances create a reasonable doubt of such purpose.

[The Court explained the several points thus stated somewhat in detail, and then proceeded as follows.]

In your inquiries you will ascertain if the defendant had the *motive*, the *means*, and the *opportunity* to kill.

It is affirmed by the State and denied by the defense, that the accused indulged an improper intimacy with the wife of deceased, and had a *motive* to remove the husband whose presence prevented the consummation or indulgence of his purposes. How this is, is submitted to you on the evidence.

It is affirmed by the State and denied by the defense, that the defendant purchased strychnine in a drug store in Columbus on the day of Freet's death, and therefore had the *means* of effecting death. How this is, is submitted to you on the evidence.

In this connection the evidence of *Qualey*, who is alleged to have sold the strychnine, should be carefully scrutinized.

For the defense it is urged that he is unworthy of credence, because his reputation for truth is shown to be bad, and because he has, on more than one occasion, described the purchaser of the poison differently from the description given by him as a witness and variant from the truth.

For the State it is urged that he had no *motive* to falsify; that the evidence of bad reputation is rebutted, that witnesses who testify as to contradictory statements are mistaken, or misunderstood them. 1 Greenl. Ev. sec. 200.

And finally it is urged that *Qualey* is corroborated by evidence that defendant was at Columbus on the day of the death, that he was seen to go into a door of or in the vicinity of the drug store where the poison is alleged to have been sold, and is in other respects sustained. How all this is, and what is or is not proved, is submitted to you on the evidence.

The presumption of law is that every man testifies honestly and is worthy of belief, and this presumption is to be acted on until by legal and satisfactory evidence or by something apparent in the conduct or demeanor of the witness, it is made to appear that there is a reasonable doubt of the credibility, truthfulness or accuracy of the witness.

It is affirmed by the State and denied by the defence that the accused had the *opportunity* of administering the poison, either through the guilty agency and participation of the wife of deceased, or by depositing the poison himself in medicine prepared for deceased, or otherwise, and that for that purpose he made a visit or visits to the house of deceased on the afternoon and evening of the death.

How all this is, is submitted to you on the evidence.

It is affirmed by the State and denied by the defence that the accused has given evidence of a guilty purpose, and of guilt, by an effort to purchase arsenic prior to the alleged death of Freet; by repeated inquiries as to the color, and quantity of strychnine necessary to kill; by the prediction that Freet would kill himself; and the opinion, subsequently expressed, that he had done so, and by the inquiry, after the death, if it would be necessary to send the stomach of deceased to Columbus.

Whether this is so, and if so, what may be the effect thereof, is submitted to you.

As a question of law, however, you will bear in mind that declarations indicating a purpose are received to show the existence of the disposition from which criminal actions proceed, to render it less improbable that the accused would commit the offence charged, and to explain the motive and character of the action. But proof of such language cannot dispense with the necessity of sufficient proof of the criminal fact of the administration of poison in a fatal dose, knowing it to be such, resulting in death.

It is a part of the defence that Wm. Freet committed suicide; that such purpose was indicated by his declaration that he would die in his own door-yard before he would go back to the army; that on the day of his death he said to his wife to ravel out a sock she was knitting for him, that he would never need it; that he then shed tears, having just returned from seeing the corpse of a soldier of his acquaintance so changed as to be difficult of recogni-

tion; that on the Sabbath evening previous to his death he sang a hymn with his wife, turned down a leaf where it was found in the book, and expressed a desire that it should be sung on the occasion of his funeral when he died; that on the same evening, about midnight, he had a spasm, or something like it, somewhat similar to those of which he died.

For the State it is urged that Wm. Freet had dyspepsia, and, being unwell, might fear or anticipate death, but never declared a purpose to commit suicide; that he had neither the poison nor the purpose to do so, and that his remark as to his return to the army only evinced a determined purpose not to go back.

What may be the evidence, or what is proved by it on this subject, is submitted to you to determine.

There is no presumption that death is the result of suicide; but if the evidence is such as to raise a reasonable doubt whether the death was occasioned by the act of the defendant, then he cannot be convicted.

But it must be observed that the mere declarations of the deceased are offered to show the existence of the *disposition*, and to render it less improbable that Freet would commit the suicide.

But proof of such language is not evidence of the suicide unless there be some other fact, or act, or circumstance, to show the commission of it. It is for you to say if there be such fact, or act, or circumstance, and if so, whether, all considered together, are sufficient to establish it or raise a reasonable doubt upon the whole evidence of the death, in manner and form, as charged in the indictment.

The defendant has offered evidence, not as to his character generally, but to show that he has always been peaceably disposed, having no inclination to do any act endangering life.

Gandolfo *v.* The State, 11 Ohio State R., 117.

So far as this may render it more or less improbable that the accused would be guilty of the crime charged, you will give him the full benefit of it in your deliberations.

Where a case "hangs in even balance, good character should make it preponderate in favor of a defendant. But if the evidence of guilt be complete and convincing, then testimony of good character cannot and ought not to avail." Wills on Circumstantial Evidence, 131.

I have not attempted to trace all the features of the evidence or argument, but all are submitted to you.

[The Court then gave the usual instructions as to the form of the verdict.]

The Jury retired, and in about three hours returned with a verdict of NOT GUILTY.

SURGEON-GENERAL'S OFFICE,
Columbus, O., April 15th, 1864.

Prof. John Dawson, M.D., Editor Ohio Med. and Surg. Jour.:

DEAR DOCTOR,—I have just received from Surgeon H. Z. Gill, U. S. Volunteers, the inclosed special report of seven cases of amputations of the thigh, with the result in each case.

The report is valuable because of the final results, so often impracticable to obtain in such reports of field operations.

I have also the promise of Dr. Gill of a detailed report of all the capital operations in his division, with their final results, covering the period of one year. When received, I will, if desirable, gladly furnish you a copy for publication.

Very respectfully,

R. N. BARR,
Surgeon-General of Ohio

Seven Cases of Amputation of the Thigh, performed within thirty hours after the injury. By H. Z. GILL, Surg. U. S. Vols.

I. Sergt. Geo. Keyser, Co. "G," 95th Regt. O. V. I.; wounded Aug. 30, 1862, at the battle of Richmond, Ky. The right femur was comminuted in the upper third by a Minie ball. The injury

occurred about 4 o'clock P. M. The amputation was performed at 9 o'clock P.M. next day—thirty hours after injury. Chloroform was administered. The circular incision was made through the soft parts; the bone was divided at the trochanter minor. The hemorrhage was completely arrested before dressing; the amputation in case No. 2 being performed before this case was dressed. The case did well until the middle of October, at which time he had typhoid fever, from the effects of which the wound partially opened, and he became very much reduced. He recovered, however, and is now County Treasurer of Champaign county, Ohio.

II. Geo. Wilson, Private of Co. "I," 95th O. V. I., was wounded at the same time in the same battle. The left femur was comminuted by Minie ball. Chloroform was administered. The amputation, by circular incision, was performed in the middle third, about thirty hours after the injury. The case recovered without an unfavorable symptom, and he was, a short time since, living at his home in Reynoldsburg, Ohio.

So much was I impressed with the necessity of performing the operation at as early an hour as possible, though I had no instruments with me of my own, and the surgeons who had remained with the wounded were very weary, yet I told them, with their assistance, the cases must be attended to that night. So far as I can now remember, every case of amputation performed after that night, wounded at that battle, died.

III. Wm. Birt, Corp., Co. "D," 47th Regt. Ill. Vol. Infy., was wounded at the siege of Vicksburg, Miss., May 22, 1863. A cannon ball had fractured the femur and lacerated the lower and middle thirds of the left thigh. The shock of injury was very decided. Amputation was performed at 9 o'clock P. M., five hours after the injury. Chloroform was given. The circular operation was made, both of necessity and of preference. The bone was sawn two inches below the trochanter minor. Stimulants were

administered as soon as the section of the bone was made. Hemorrhage was completely arrested before dressing the stump.

There was an additional wound on the same side, about an inch posterior to the trochanter major, into which the finger could be inserted its full length, and from which a portion of the guard of his gun was removed three months afterwards. The case progressed very favorably, except the latter wound. The amputation was entirely united by the 4th of July, at which time I left him. He died at home in October, of chronic diarrhoea.

IV. Columbus Reed, Private, Co. "F," 4th Regt. Va. Vols. (Federal), was wounded at the siege of Vicksburg, Miss., May 19, 1863, by a Minie ball, fracturing the left femur, involving the knee-joint.

Amputation next day, eighteen hours after injury, by circular operation in the lower portion of the middle third. Chloroform was administered. He was sent home about the middle of June, well.

V. James M. Rhea, Private, Co. "I," 8th Regt. Iowa Vol. Infy., was wounded at Vicksburg, Miss., June 22, 1863, by a Minie ball entering the right knee-joint, fracturing the patella, also the spinous process of the tibia. The ball was found in the crucial ligament of the joint. The femur was uninjured. I proposed resection, but was not supported by the other surgeons. Chloroform was administered; operation was performed four hours after the injury. The circular cut was made, except the anterior portion of the integument and facia, which were cut semi-circularly after Skey's method. The hemorrhage from the femoral vein was very obstinate. The patient was in bad health at the time of the injury. A clot formed in the wound, which we supposed arose from hemorrhage from the femoral vein. The wound was doing well on the 8th of July, but on account of the movement of troops to Jackson, Miss., and the death of the surgeon in charge of the hospital, the case was in measure neglected. An abscess

formed on the sacrum, and the patient died July 25th, thirty-three days after the operation, the wound at the time being nearly closed.

VI. John Wedeking, Private, Co. "A," 114th Ill. Vol. Inf'ty., wounded near Jackson, Miss., July 16, 1863, by a Minie ball entering the right thigh from the external aspect, fracturing the femur, and rupturing the femoral vein. The ball entered a short distance below the trochanter major, and was divided by the bone, both pieces passing through as far as the integument of the inner surface of the thigh—one piece severely contusing the corresponding testicle. Chloroform was administered. Amputation performed five hours after injury. Semi-circular integumentary flaps were made, and circular cut of the muscle. The bone was divided half an inch below the trochanter minor, though a portion of the bone was split off higher up. The wound of entrance was above the external angle of the flaps. The wound was dressed an hour after the operation. It united almost entirely by first intention. The case recovered rapidly. He sent me his photograph, taken at St. Louis, February, 1864.

VII. Williston Utter, Private, Co. "K," 8th Regt. Iowa Vol. Inf'ty., was wounded near Jackson, Miss., July 19, 1863, by a Minie ball entering the right knee-joint from the anterior aspect, fracturing the patella and the head of the tibia, and passing out three inches below, near the spine of the tibia. Chloroform was administered. Amputation was performed in the lower third of the thigh, twenty-eight hours after the injury. Semi-circular integumentary flaps were made, with circular cut of the muscles. The man was a clerk in a store in Iowa, in March, 1864.

The last two men were carried on litters forty or fifty miles, starting on July 21, 1863, on account of the army falling back from Jackson to Black River.

TABULAR STATEMENT OF AMPUTATIONS OF THIGH..

No.	Name.	Rank.	Company.	Regt.	Injury.	Missile.	Hours after injury.	Remarks.
1	Geo. Keyser ..	Sergt.	G	95 O.V. I.	Frac. femur	Minie ball .	30	Recover'd
2	Geo. Wilson...	Private	I	95 O.V. I.	Frac. femur	Minie ball .	30	Recover'd
3	Columbus Reed	Private	F	4 Va. V.	Frac. femur	Minie ball .	18	Recover'd
4	Wm. Birt	Corpl.	D	47 Ill. ..	Frac. femur	Cannon ball	5	Recover'd
5	James M. Rhea	Private	I	8 Iowa ..	Frac. knee	Minie ball .	4	Died*
6	John Wedeking	Private	A	114 Ill...	Frac. femur	Minie ball .	5	Recover'd
7	Williston Utter	Private	K	8 Iowa...	Frac. knee	Minie ball .	28	Recover'd

* Thirty-three days after the operation.

Glanders.

MADISON GENERAL HOSPITAL,
MADISON, IND., June 10, 1864.

Equinia—more commonly termed glanders—although a disease of very rare occurrence, is so obstinate in resisting all medical treatment, and consequently so universally fatal, that the history of each case becomes valuable to science, and its treatment a subject worthy the most careful consideration of every practitioner.

Although Hippocrates, the Father of Medicine, in his works very accurately and completely described the symptoms of glanders in the horse, yet it was not till within a very modern date that it was known to extend beyond the horse, the ass, and the mule. Cases have occurred where it has unquestionably been communicated to *man* in both the acute and chronic form. The affection thus communicated from the horse to man has, by Dr. Elliotson, been very appropriately termed Equinia.

A very small minority of medical writers treat of this malady; and its pathology seems to be surrounded by a degree of obscurity that indicates too little investigation in so fatal a scourge. But it is not my intention to write an essay on this disease; but, in com-

pliance with the request of some of my colleagues here, to report a case of glanders that occurred in this hospital.

Thomas Duren, a private in Co. H, 33d Reg. Mass. Vols., came under my care on the 10th of May last, with the following symptoms and history: Fever; headache; skin hot and dry; respiration hurried; sore throat; pulse very frequent, soft, and weak; tongue furred; submaxillary glands swollen; stomach very irritable; pain in limbs and joints; no appetite. He had, before I saw him, been confined to his bed for some time under treatment with unsettled diagnosis—one physician terming his disease bilious fever, and another gastritis. A day or two before coming under my care, a small pimple made its appearance on his chin, which in a few days, from its phagedenic and gangrenous character, attracted some attention. I removed the incipient sloughs, and penciled it with nitrate of silver. My next visit found the sloughing uninterrupted, and rather on the increase. The same process of removing sloughs by penciling was continued a day or two, but without any remedial or beneficial effect. On the third morning from the first application of the caustic, I found, upon syringing and cleansing the sore, that it had almost denuded the inferior maxillary at the symphysis mentis, and burrowed laterally in the soft tissues to considerable extent—its surface being as large as a silver dollar. Pure nitric acid was now applied, which, on a second application, checked the sloughing and phagedenic process, and in a few days a sort of semi-healthy granulation set up; but gangrenous spots now began to appear on the arms and legs, to which the nitric acid was successfully applied. As before remarked, the throat was very sore, rendering the voice coarse and husky. The tumefaction, which had previously been mostly confined to the submaxillary glands, now began to extend to the cheeks, temples and forehead, till vision was entirely destroyed. The nostrils, from which had issued a profuse, thin, straw-colored flow, now gave out a dark, sanious discharge of the most foetid odor. A mucus of the most

disagreeable character was discharged from the eyes and mouth, excoriating the skin on the face, causing the countenance to present a very unseemly appearance. The teeth and gums were covered with a profuse sordes, while the exhalations from the body rendered the air in his immediate presence loathesome.

Not being satisfied with the character of the disease, I invited the surgeon in charge of the division—an extensive practitioner of some twenty years' standing—to visit the patient with me. He immediately pronounced it a case of glanders, and proceeded to interrogate the patient as to his former history, and learned from him that he had formerly been a farmer, and had on two occasions administered to horses affected with glanders. And although these were the only occasions he recollects of having been exposed to the contagion of the disease—and these were months before his present illness—it was concluded that he had at that time received the virus into his system, which after an indefinite incubation, had resulted in the present manifest symptoms of glanders. He spoke frequently of his family, and conversed rationally on different subjects till about two days before his death. In addition to symptoms already mentioned, he had some cough, slight at first, but afterwards somewhat annoying. His expectorations were dark, sanguous, and very tenacious, resembling in appearance small pieces of liver, and of a very offensive odor. His bowels were at first somewhat constipated, but toward the close of his illness very loose—the discharges thin, and of a dark color and offensive smell. In addition to the local treatment already mentioned, some astringent lotions were applied to his head and face, in hopes of reducing the swelling. The general treatment consisted of tonics, stimulants, diuretics, opiates, and astringents, combined with a good nourishing diet. In the minds of some of the younger physicians here, some doubt existed as to whether this was a case of glanders, and that doubt originated, not in a want of proper symptoms, but from the fact that the patient had not been exposed to the disease for a

period far beyond the limits of the incubation of that malady, as taught by all writers on glanders. Admitting there is a discrepancy between the teachings of authors and the assumption in this case concerning the stage of incubation, we ask why may not the stage of incubation of glanders, like that of hydrophobia and other similar affections, have an indefinite range—embracing weeks, months, and sometimes even years?

There is a multitude of influences that counteract the encroachments of disease, and these influences are possessed in various degrees by different individuals. Some have strong vital powers that act as a barrier to the insidious, noxious virus of many contagious maladies, enabling them to mingle amid influences unharmed that would speedily prostrate less vigorous individuals, while others possess idiosyncrasies that cause them to be the speedy and fatal recipients of the slightest infections or morbid effluvia; and without further elaboration, we ask, is it not reasonable to infer that the incubative stage of even Equinia may be somewhat influenced by the condition of the patient, his powers of endurance, or his idiosyncrasies? In the case of Duren, there are two significant facts, one derived from the patient himself, and the other came under my own observation, viz: 1st. The patient had, on two occasions, acted as groom to glandered horses; and 2d. In an indefinite period afterwards, died with all the symptoms of glanders.

JOHN S. GARD,

A. A. Surg. U. S. A.

Toxicolog.*

Report of Experts in a Trial for Supposed Criminal Poisoning with Digitaline. Translated from the Jour. Chem. Med. June, 1864. Paris. By ROBT. M. DENIG, M.D., Columbus, Ohio.

The undersigned, Ambroise Tardieu, Professor of Medical Jurisprudence, &c., in order to proceed to the autopsy of the body of the deceased widow de Pauw, interred in the Cemetery of Mont Parnasse, on the 19th of November, and to explain the cause of her death, repaired on the 30th to the above-mentioned cemetery. The exhumation having been made and the body identified, we proceeded to the post-mortem examination intrusted to us. The state of preservation of the body was such, that not only externally but internally the least lesions were perfectly appreciable. The body was that of a woman about 40 years of age, whose corpulence and general aspect indicated that she had not been exhausted by long suffering incident to chronic disease. There existed no trace of violence exteriorly; the most careful examination did not reveal, either upon the trunk or members, either anteriorly or posteriorly, any mark of cruelty, injury or contusion. The integument and bones of the cranium were intact; the brain in a perfectly normal condition; the interior of the mouth and fauces offered nothing worthy of note. The lungs were perfectly healthy; we discovered neither congestion, apoplexy, inflammatory alteration or tubercular deposition. The heart, equally intact, inclosed a considerable quantity of half coagulated blood. After having removed the clotted blood, we satisfied ourselves that all parts of this organ, and especially the valves and orifices, were in a perfectly normal condition.

Upon opening the abdomen, we did not find any effusion of blood, serum, or any other fluid, in the cavity; the different abdominal viscera, the liver, the spleen, the kidneys, were healthy.

As to the digestive tube, the stomach and intestines, it presented only, in places, slight sanguineous stains, and some injected spots were scattered throughout the entire course of the canal; but no part of the mucous membrane was the seat of inflammation either acute or chronic; in no part of it was there either softening, ulceration, or perforation.

The genital organs, as well internally as externally, present no

* The trial of Couty de La Pommerais having attracted the attention of all our Medical Jurists as well as Toxicologists, we have thought proper to reproduce, *in extenso*, the judicial reports made in the case by MM. Tardieu and Roussin.

A. CHEVILLIER.

trace of disease or violence; but we discovered the womb to be in the early stage of a gravid condition. The product of conception, in every way intact, had a development of about seven or eight weeks.

In summing up our conclusions resulting from the examination, we affirm that—

1st. There existed in the widow de Pauw, no trace of appreciable lesion, either long standing or recent, which can, after a most careful examination of the organs, render a natural account of her death.

2. This absence of characteristic lesions and positive indications, especially in the digestive tube, naturally suggests the suspicion that her death has been the result of the ingestion of some poisonous substance.

3d. The analysis of the viscera can alone in this respect furnish positive results. We have, consequently, extracted from the body and placed them in two new glass jars—in the one the stomach and intestines; in the other the liver, the kidneys, heart and lungs. These jars have been carefully closed and sealed, and our signature placed upon the label.

(Signed)

A. TARDIEU.

Paris, 29th December, 1863.

REPORT OF EXPERTS.

We, the undersigned, A. Tardieu and Roussin, Professors of Toxicology, &c., have been deputed by M. de Gonet to ascertain if there exist still in the organs of the widow de Pauw, and upon the floor of the room in which she died, traces of any poisonous substance.

All the operations, experiments and analyses to which we have found it necessary to resort in order to accomplish our mandate, have taken place in the Military Hospital of Val-de-Grace.

These operations terminated, we make the following report, which sets forth and sums up the details of our numerous researches, as well as the conclusions which seem legitimately to flow from them.

LIST OF SEALED PACKAGES RECEIVED FROM THE HANDS OF THE JUDGE OF INSTRUCTION, BY A. TARDIEU AND ROUSSIN.

A. Substances seized at the house of the accused.

- 1st. A small wooden box, closed with hasps, marked No. 7.
- 2d. A small box, marked No. 8.
- 3d. A large white box, marked No. 6.
- 4th. A large square wooden box, marked No. 10.
- 5th. A copper box, closed with hasps, marked No. 1. Also a large square pasteboard box.

[These boxes, &c., contained the complete *armamentaria* of a homeopathic doctor, numbering some 900 different articles.]

B. Organs of Madam de Pauw.

These packages consisted of two large sealed glass jars, containing the organs extracted from the body of the widow de Pauw.

C. Package containing articles derived from the chamber of the widow de Pauw.

1st. Twenty-three boards of the floor. 2d. Concretions scraped from the surface of the floor. 3d. Fragment of linen found upon the window in her room. 4. Matters scraped from the floor under the bed of the deceased widow.

D. Finally we received, from the Judge of Instruction, information concerning all the different parts of the transaction, necessary to illumine some points of the questions which have been transmitted to us; especially the correspondence of the widow herself—the depositions of scientific men and others, who, having been in close relation with her, have been able to furnish valuable information in regard to her habitual health—and especially upon her condition immediately preceding her death.

Upon the reception of these various articles, we proceeded at once to the inspection of the seals and labels placed upon them; and affirm that the integrity of each and all was such as left nothing to desire.

In making our report we will follow the order which has just been indicated.

In the first place we will apply ourselves to making out a catalogue of the different articles taken possession of at the house of the accused.

In the second, we will set forth the process of analyzing the organs extracted form the widow de Pauw, and the results which these analyses have furnished us.

In the third, we will combine the analyses and researches of matters collected upon the floor, and upon the linen found in the chamber.

The fourth we will devote to the exposition of the physiological experiments undertaken by us upon living animals, in order to establish the presence of poisonous substances, of which chemical analysis is not able sufficiently to determine the nature.

In the fifth place, we will compare with the preceding facts, the *testimonies and proofs collected* in our *instructions*, as well with regard to the former health of the widow de Pauw, as the symptoms which immediately preceded her death; and the state of the organs revealed by the autopsy of the body.

Finally, the sixth part will contain the conclusions which result from the entire assemblage of facts, and the response we have been able to make to questions touching the cause of the death of the widow de Pauw.

I. EXAMINATION OF THE DIFFERENT SUBSTANCES SEIZED AT THE HOUSE OF M. COUTY DE LA POMMERAIS.

[These substances, consisting of some 900 different compounds and homeopathic preparations, were all carefully determined by accurate chemical analysis, numbered and labeled. We omit the detail, given at length, of them, in the report—noticing only a few articles which, having been italicised, seem to have direct bearing upon the case.]

27. Hydrochlorate of Morphine, 4 grammes.

This dose, of a substance so dangerous, is very considerable, when we reflect that it can be administered with safety only in doses of a very few centigrammes.

29. Digitaline.

This vial contained at first 2 grammes; there remained, at the moment of the inventory, only 15 centigrammes; that is to say, the one-thirteenth part. Now, Digitaline is a substance of such extremely active properties, that it can be administered, with safety, only in doses of a very few milligrammes.

The invoice bills of the house of Menier, which have been exhibited to us, reveal, in regard to this substance, the following facts :

1. At the date of October 4, 1861, the accused bought 50 centigrammes of Digitaline,
2. On the 11th of June, 1863, the accused bought 1 gramme.
3. On the 19th of June the accused bought 2 grammes.

Total, 3 grammes and 50 centigrammes of Digitaline, of which there remain at present only 15 centigrammes—that is to say, about the one twentieth.

A consumption so considerable appears out of all proportion, not only with the requirements of a physician, but even in a pharmacist would indicate a very large custom.

Digitaline is one of the most violent poisons known. It is possible to administer it only in doses of from 1 to a few milligrammes (now, one gramme contains 1,000 milligrammes). In the dose of from 1 to a few centigrammes, it is infallibly fatal.

Twelve grammes of Hydrochlorate of Morphia have been bought by the accused at the following dates :

- 1st. Four grammes on the 4th of April, 1861.
- 2d. Four grammes on the 23d of February, 1863.
- 3d. Four grammes on the 26th of November, 1863.

We could prolong this list indefinitely, and enumerate in it hundreds of substances or preparations, very dangerous, and as active as those we have already enumerated. We have restricted ourselves to the preceding, supposing they would give a sufficient idea of the medicinal substances employed by the accused, and his tendency to have in his possession a numerous collection of poisons, whilst he is surrounded by homeopathic pharmacuetists, who alone are authorized to prepare and deliver these dangerous compounds.

I. EXAMINATION OF THE ORGANS EXTRACTED FROM THE DEAD BODY OF THE WIDOW DE PAUW.

These organs were contained in two large glass jars with wide mouths, perfectly corked and sealed. The one bottle contained the stomach and intestines, and bore the following label:

"District of Montparnasse Department of Health. Verbal process of Nov., 1863.

"Jar No. 1, containing the stomach and the intestines extracted by M. Tardieu, from the body of the defunct Francoise Julie Testu, widow de Pauw."

The other jar enclosed the other organs of the deceased, and bore the following label:

"District of Montparnasse, &c., &c."

"Jar No. 2, containing the liver, the lungs, the heart, and the kidneys, extracted by M. Tardieu, from the body of the defunct Francoise Julia Testu, the widow de Pauw."

On opening the jars we found a most remarkable state of preservation of these different organs. In particular, the jar containing the stomach and intestines, is almost free from odor, and presents no vestige of putrefaction. That which contained the other organs gave evidence of the commencement of manifest disorganization. The organs were tumified, and distended with gaseous exhalations, so as to be kept with difficulty within the jar.

We hastened, in consequence, to empty into a large porcelain capsule, well adapted for the occasion, the contents of jar No. 2; and after making several incisions in different parts of the tumified mass, to give exit to the gas, we covered this pulp with alcohol of 90° very pure, with the view of arresting the fermentation already commenced, and to prevent any further decomposition.

We proceeded immediately to our toxicological researches. To this end we divided in two portions, as nearly as possible equal, the different organs contained in jar No. 2.

One of these portions was held in reserve for any unforeseen accident, the other was at once put under examination.

That portion destined for immediate analysis was cut into small thin slices by means of a new scalpel, and introduced into a retort with 200 grammes pure concentrated sulphuric acid. This retort, provided with an extension and a balloon shaped receiver, properly cooled, was heated in a sand bath until all disengagement of vapor had entirely ceased.

There remained in the retort only a charred mass, dry and friable; and we find in the receiver about eight centigrammes of liquid, very acid, emitting a lively odor of sulphuric acid.

The examination of the charred mass was made in the following manner: Extracted from the receiver by means of a glass rod, it was carefully reduced to powder, and re-introduced into a new receiver, with 50 grammes pure concentrated nitric acid.

After a prolonged digestion in a salt-bath, we added 250 cubic

centimetres of distilled water, then place it upon a *filtre*; the *filtre* is washed by repeated applications of distilled water until entirely freed from all soluble matter; we obtain in this manner 600 cubic centimetres of a watery fluid, strongly acid, which we evaporated, also in a salt-bath, almost to dryness.

In this state this solution presents the following characteristics: the addition of hydro-sulphuric acid, even to a persistent odor, gives rise to only slight deposit of a whitish yellow sulphuret, completely insoluble in water and ammonia. Ammonia and potash produce an abundant precipitate in this liquid. The precipitate presents all the characteristics of phosphate of lime, mixed with a little magnesia and iron. The presence of this last metal is detected from the rest very easily by the aid of hydro-sulphate of ammonia, yellow prussiate, infusion of galls, or cyauret of potassium.

Introduced into the apparatus of Marsh, this liquid gives no deposit, either upon the tube or saucer. We may say the same concerning the distilled liquid obtained by the treatment of the organs with sulphuric acid. This liquid contains no poisonous principle, for it gives no precipitate appreciable, to the various reagents which we have brought to act upon it.

The altered state in which these organs were found, permitted but little hope that a chemical research, with a view to discover an organic toxic agent, would be crowned with success. We had consequently reserved for this delicate research the contents of the other jar, which contained the stomach and the intestines; organs which, assailed ordinarily first by the poisonous substance administered, preserve also a greater length of time deposit and traces of them.

The stomach was examined with the greatest care. At the moment of removing it from the vessel which contained it, we were struck with the little alteration it presented in color, as well internally as externally. Tumeric paper when brought in contact with it, gave no appreciable alkaline reaction, a manifest sign of preservation, which is not little surprising, fifteen days after inhumation.

This kind of resistance to decomposition is observed frequently (and all toxicologists place great confidence in it,) when these organs have been brought in contact with antiseptic substances, and especially poisons which retard decomposition, and sometimes even entirely prevent it.

A similar observation is true with regard to the entire length of the intestinal tube, which, notwithstanding its known tendency to putrifaction, presented, so to speak, no traces of alteration, but on the contrary, all the characteristics of a healthy organ extracted from the body of a person dying in the full vigor of health.

Whatever deductions might be drawn from this special immunity, we divided the stomach into as small pieces as possible, and introduced the fragments into alcohol at 95° strength.

We divided one half of the intestines in the same manner, and placed together in the same receiver the finely separated fragments of these two organs. After a digestion of twenty-four hours at a temperature of 30° Cent, frequently agitated, the contents of the receiver were thrown on a filter, and washed with renewed applications of fresh alcohol until exhausted.

We obtained in this manner about 650 cubic centimeters of a yellowish alcoholic liquid, which was put immediately to evaporate in a salt-bath, until reduced to a soft extract. This extract was poured still hot into a small glass capsule, and immediately covered with parchment paper, glued to its edges, and which we labeled "A, Extract derived from the alcoholic treatment of the stomach and half the intestines of the widow de Pauw."

The soluble residue of the alcoholic treatment upon the filtré was treated with 250 cubic centimetres of boiling distilled water, and left to digest 24 hours, then placed upon a filter, and washed with 250 cubic centimetres of tepid distilled water. These liquids when filtered are submitted to an evaporation, and gradually brought to the consistency of a soft extract. This extract is introduced likewise into a small glass capsule, which is covered with parchment paper glued to its edges, and labelled "B, Extract derived from the treatment by hot distilled water of the stomach and one half the intestines of the widow de Pauw."

The insoluble residue of these two treatments we finally introduced, with 200 grammes pure concentrated sulphuric acid, into a glass retort provided with an extension and a receiver also of glass.

The heat was regulated in such a manner, that after three hours distillation there remained in the retort only a dry charred mass; and the receiver contains about 520 cubic centimetres of a highly colored liquid, having the odor of sulphuric acid, surmounted by a few drops of empyreumatic oil.

This distilled liquid evaporated in a platinum capsule, left no metallic residue, treated with the ordinary reagents for mineral substances, such as hydro-sulphuric acid, yellow prussiate of potash, &c., it furnished no metallic deposit even after 24 hours repose.

Various successive operations demonstrated to us that it contained only sulphurous acid, derived from the sulphuric acid used by us as a reagent in producing the carbonization; and a small quantity of oily matter common to decompositions of animal tissues, under similar circumstances.

The carbonized residue of the retort was finely pulverized, and digested for four hours with pure concentrated nitric acid. At the end of this lapse of time we added 250 cubic centimetres of hot distilled water, and proceeded to filter on Bezilius' paper.

The liquid which percolated first, added to that used in washing, was evaporated in a salt-bath, then finally, at a temperature of 120°, until the complete dissipation of all acid vapor. Mixed afterwards with a small quantity of distilled water, and filtered anew, the liquid left a small insoluble residue composed exclusively

of phosphate of lime and magnesia, and presents the following reactions : Treated with hydro-sulphuric acid even to the persistence of the odor of this acid, this liquid gives only slight deposit of sulphur ; treated with hydro-sulphate of ammonia or sulphuret of sodium, it gives an abundant precipitate of a dark grey color, which an attentive and careful examination demonstrated to be only sulphuret of iron, mixed with a little sulphur, and a considerable quantity of phosphate of lime and magnesia.

The yellow prussiate gives rise to an abundant Prussian blue of very pure color.

Ammonia and caustic potash give a voluminous precipitate, containing phosphate of lime, iron, and magnesia, as well as a small trace of alumina. Iodide of potash occasions no precipitate, but only a slight discoloration, due to the presence of nitric acid.

The liquid introduced into a Marsh's apparatus furnishes neither spot nor ring, notwithstanding a carefully-regulated trial of three-quarters of an hour. From these facts, it results that the stomach and intestines did not contain any other metallic substance than iron, a metal normally abundantly present in these organs.

III. EXAMINATION OF THE FLOOR OF THE CHAMBER IN WHICH THE WIDOW DE PAUW DIED.

This package consisted of articles inclosed in coarse linen cloth, carefully labeled, the labels and seals in a state of perfect integrity.

A written label bears the following inscription :

Public Seal No. 3,

Twenty-three boards of the floor, and four small pieces of wood, the whole derived from taking up eleven planks of the floor of the apartment in which the widow de Pauw slept and died.

Another package, bearing an intimate relation with the above, consists of a small parcel labeled

Public Seal No. 1,

Concretions scraped from the surface of the floor, and from places where the matters ejected in vomiting had fallen.

We proceeded to the examination of these two packages in the following manner : The boards from the floor were divided into two equal parts, of which one was immediately re-inclosed and labeled "Boards not examined by the experts." The other portion of the boards was at once submitted to a methodical scraping, but not very deep, the surface of each plank being raked by an appropriate iron instrument. The portions of matter detached were carefully collected on a sheet of white paper, and immediately introduced into a glass receiver containing a demi-litre of alcohol at 95°, carefully rectified. It was principally in the intervals which separate the boards of the floor, where are usually accumulated the filth and impurities which fall, that the matters were collected. These concretions, of which several were still moist, were carefully and

entirely detached from the edges of the boards, and reunited with the products of the superficial scraping, much less abundant.

The experts would observe that as the floor bore unequivocal marks of having been waxed, the scraping of the boards was very carefully performed, so as to avoid the introduction of too much foreign matter.

This operation of scraping, &c., having been performed, and the detached matters introduced into a receiver, the twelve boards were reinclosed and labeled "Boards examined by the experts Tardieu and Roussin," which, together with those not examined, were again introduced within the linen cloth originally inclosing them, and carefully secured with cords, seals, &c.

The contents of "*Public Seal No. 1*" were also placed in the receiver containing the 95 per cent. alcohol.

The grayish mass resulting from the mixture of the various matters collected in the manner specified, with the alcohol, was left to digest at a temperature of about 25° Centigrade, for twenty-four hours, frequently agitated to favor solution. At the end of this time the entire contents were placed upon a filter. When the filtration ceased, the insoluble residue was carefully washed with repeated applications of fresh alcohol, until the liquor had neither color nor odor.

The alcoholic liquids obtained by these processes, which presented a well-marked yellowish color, were mixed together and their evaporation carefully conducted so as to exclude the introduction of any foreign matter into the capsule which contained them.

When the liquid was thus three-fourths evaporated, it was transferred to a smaller capsule, and carried to the smallest possible volume.

The extract obtained was sufficiently abundant, weighing 16 grammes and 50 centigrammes, and presented the following characteristics :

Color brown, odor peculiarly rancid and unctuous, taste very bitter, and leaves no metallic residue after incineration. Dissolved in water and filtered, it gives an abundant precipitate with tannic acid. In contact with sulp. acid it gives a purplish red color, and with hyd. chlo. acid a manifest green color.

An attempt to purify this extract by dialysis gave no satisfactory result, and was abandoned. This extract was placed in a small glass capsule and covered with parchment paper glued to its edges, and labeled : "O, derived from the alcoholic treatment of the matters scraped from the surface and cracks of the floor of the chamber of the widow de Pauw, portions soiled by the vomitings."

The residue, insoluble in alcohol, contained besides some earthy and organic matters, some remains of wood, scraps of pasteboard and paper, and a certain quantity of cement, such as is used by glaziers. This cement was found more particularly between the edges of the boards, where it had probably been placed to fill up the crevices.

We must say a few words of a small package marked "Public Seal No. 2," and labeled "Fragment of linen found upon the window-sill of the room occupied by the widow de Pauw, by the Judge of Instruction." This fragment of linen was 30 centimeters long and 20 wide, torn in several places and covered with stains—some black, some gray, and others yellowish. The most carefully-conducted examination could not detect the slightest trace of any poisonous substance upon it, either vegetable or mineral.

With the view of confirming the results furnished by the above experiments, it was necessary to submit to a similar treatment portions of the floor not soiled by the matters ejected in vomiting.

To this end the following "Public Seal" had been transmitted to us, which consisted of a small package done up in white paper, and labeled "Matters scraped from the floor of the chamber occupied by the widow de Pauw, in the part covered by the bed, that is to say, free from the matters ejected by vomiting."

Placed immediately to digest in alcohol of 95° strength, they have, after a digestion of twenty-four hours, at a temperature of 25°, and a carefully-regulated filtration, furnished an amber-colored liquid, but of an intensity much less than that of the preceding.

Evaporated to the consistency of a soft extract, this liquid leaves a mass of well-marked color, of an oily aspect, somewhat analogous to the extract O, but presents, so to speak, no bitter taste. This extract leaves no metallic residue after incineration; it does not precipitate on the addition of tannic acid; and gives scarcely any color on the addition of sulphuric acid or hyd. chlo. acid. The color communicated by the two last acids, has moreover no analogy to those developed by extract O.

This extract was also put into a small glass capsule and covered with parchment paper glued to its edges, and labeled "P, extract derived from the alcoholic treatment of the matters scraped from the floor of the room occupied by the widow de Pauw, in the part covered by the bed, that is, free from the vomitings."

The residue, insoluble in alcohol, contained besides earthy substances and various organic matters, such as wood, paper, pasteboard, &c., a considerable quantity of the same kind of cement previously mentioned.

The accused affirmed that the room occupied by the deceased had formerly been used as a laboratory and cabinet of photographers. The Judge of Instruction, in apprising us of this fact, requested us to take it into account in our experiments, and discuss the value of it in our report.

We observed, at very first sight, that the floor of the apartment did not present any black stains such as are usually furnished by nit. silver and the salts of gold, used so much by these artists. The most superficial examination carried the belief that there had been little or no photographic operations done in this chamber. The chemical substances generally employed in carrying on this business are the following: nit. silver, chloride of gold, cyanuret of

potassium, hyp. phos. of sodæ, sul. ferri, acetic acid, iodide and bromide of pot., bichloride of merc., bromide of cadmium, and collodion. Now among these substances, the acids gallic and pyrolignic, the hyp. phosphate of sodæ, sul. of iron, acetic acid, iodide and bromide of potassium and cadmium, and collodion, are not poisonous except in very large doses. The nitrate of silver and chloride of gold, falling upon the floor of wood, are always immediately decomposed and rendered insoluble and inoffensive. The cyanuret of pot., a very energetic poison, is decomposed rapidly in solution even when well corked, and still more rapidly when falling upon a floor of wood.

In the last case, it is beyond all doubt that in a few days there would be no traces of it, and that it would be readily transformed into carb. of Potassa, an entirely inoffensive substance. Corrosive sublimate is decomposed with more difficulty, and resists, to some extent, alteration, still it is more or less readily accomplished under the influence of organic matter—which changes it into an insoluble perchloride of merc. We were entirely convinced, after the most careful scrutiny, of the entire absence of mercury in matters scraped from the floor, and we can affirm that there existed no trace on the floor of this metallic poison.

The alcoholic solution which furnished extract O, contained no mineral substance, consequently not the slightest trace of a mercurial compound.

It results from these observations and experiments, that the sleeping apartment of the widow de Pauw, had it been formerly occupied as a photographic establishment, which appears very doubtful, would have furnished some evidence of the substances used by these artists in extract O.

The experts affirm this in the most positive manner.

IV. DETAIL OF PHYSIOLOGICAL EXPERIMENTS PRACTICED UPON ANIMALS WITH THE AID OF EXTRACTS A, B, O, P, FORMERLY DESCRIBED.

Although chemical analysis does furnish us with certain and positive results in mineral and crystallisable vegetable poisons, it does not always, under other circumstances, enable us to isolate the active principle of vegetable poisons, whose energy is nevertheless extremely virulent.

As experiments upon living animals can alone enable science to trace them up, and reveal their terrible effects, we have not failed under the present circumstances to resort to them. We have for this purpose instituted a series of experiments, to ascertain if some one of the poisonous substances, of the nature of those of which we have just spoken, is not contained in the product obtained by the analyses of which we have given an account; and which, it must not be forgotten, were obtained, either from the matters vomited by the widow de Pauw or from the organs extracted from her body.

Extracts used in making the experiments upon the animals:

1st. Extract O—derived from the alcoholic treatment of matters scraped from the floor of the chamber of the widow de Pauw, parts soiled by vomiting.

2d. Extract P—derived from the alcoholic treatment of matters scraped from the floor of the sleeping apartment of the widow de Pauw—in the part occupied by the bed—that is, not soiled by vomiting.

3d. Extract A—derived from the alcoholic treatment of the stomach and one-half of the intestines.

4th. Extract B—derived from the treatment by means of hot distilled water, of the stomach and one-half the intestines of the widow de Pauw.

Experiment First.

At five minutes past 1 o'clock, a vigorous dog of mean height, enjoying the best of health, was secured upon the table by two assistants, whilst an incision was made on the inside of the thigh, about three centimetres in length. Five grammes of Extract O, accurately weighed, was introduced beneath the skin, and the wound closed and reunited by a few points of suture.

Before this operation the strokes of the heart were 110 per minute; the dog abandoned to himself continued to walk about the room without manifesting either pain or apprehension.

In about three-quarters of an hour he lay down and began to lick the small wound. Towards half past 3 o'clock three successive attacks of vomiting occurred. The animal threw up each time glairy matters, impregnated with a little bile, and then lay down—his attitude anxious and dejected.

The heart indicated only 94 pulsations; these very irregular and intermittent, the hurried and tumultuous contractions sometimes suddenly ceasing for a few seconds, to be renewed in a few seconds with the same accelerated and hurried motion. The respiration more hurried than before the operation, and slightly intermittent; at 4½ o'clock the pulsations fell to 76 and the animal once more vomited.

At 8 o'clock in the evening he has lain down and is much more dejected, supports himself on his limbs with difficulty, the least movement he is compelled to perform is painful and provokes vomiting or an attempt at it.

The heart indicates 68 pulsations, and presents the same intermittent character as formerly, whilst they are more energetic and distinct than at 4½ o'clock.

At 8 in the morning the animal is almost cold; he appears, nevertheless, to have preserved all his intelligence for he is slightly agitated by the voice, and gives evidence of recognition.

The strokes of the heart less energetic and reduced to 40 per minute.

Their irregularity and their sudden intermittence are truly remarkable.

On feeling the pulse one can observe after a repose of a few seconds, at first 6 or 7 rapid beats, then an absolute arrest of movement. The throbings recommence presently more or less violent, but always precipitate, then, as suddenly disappear to again as suddenly begin. Respiration is high, hurried and intermittent; these symptoms continue until 11 o'clock, when the animal expires without agony, apparently having preserved his intelligence until the last moment. At no time did he present the true comatose condition.

Autopsy practiced two hours after death revealed the following condition of things: The lungs, the stomach and the liver were in a normal condition; neither the cerebrum nor cerebellum presented any signs of congestion. The heart alone presented especial phenomena; the two ventricles were contracted in the most evident manner, whilst the auricles were dilated; all the cavities of the heart were filled with black blood, thick, and partly coagulated. This organ presented a deformation and kind of turgescence quite obvious.

At the apex of the heart, but especially upon the walls near this point, we observed, after raising the pericardium, some projections of a lively red color.

There could exist no doubt, after the different symptoms observed, and a result so characteristic of the autopsy, that the extract, O, administered to the animal by subcutaneous injection, had produced death by its special action on the functions of the heart.

Second Experiment.

At one o'clock and twenty minutes P. M., we weighed, with care, two grammes of extract O, which we dissolved and diluted in a sufficient quantity of water. This solution was immediately administered, with the aid of a glass funnel, to a healthy rabbit of mean height, well proportioned, which swallowed it without difficulty, and retained it until the end.

The symptoms observed were as follows:

Considerable diminution, intermittence, irregularity and precipitancy in the movements of the heart. Respiration appeared painful and slightly intermittent some moments before death.

At 3 o'clock and 15 minutes the pulsations were reduced to 41 per minute. At 4 o'clock and 15 minutes—that is, two hours and three-quarters after the introduction of the extract—the animal died.

The autopsy practiced next day revealed results identical with those witnessed in the preceding case. The brain, stomach and the liver were in a normal condition. The heart presented a sensible and manifest distortion; the auricles were dilated, as observed in the former case; the ventricles not only contracted but defined, in the most obvious manner, by their dark color, from the rest of

the organ. The interventricular space presents a notable and remarkable depression. The point of the heart is of a lively red color, and the walls exhibit several abnormal prominences, tinged with small circular red spots.

We do not hesitate to assert that the rabbit has, in the same manner as the dog, succumbed in consequence of the introduction of a special poison contained in extract O—a poison which exerts its deleterious action more particularly upon the heart.

Third Experiment.

Near 1 o'clock and 30 minutes we weighed accurately 4 grammes of the extract P (obtained from the matters collected from that part of the floor covered by the bed, and not soiled by the vomiting), and having diluted it with a sufficient quantity of distilled water, we administered it, by means of a glass funnel, to a rabbit, in every respect like the last mentioned. The animal swallowed it, and did not return any of it subsequently by vomiting.

Two days afterwards it continued to enjoy the best of health. During all this time it continued to play around the room in which the experiment was made, and at no time gave any evidence of toxic influence.

Fourth Experiment.

At 3 o'clock P. M. we made an incision on the internal part of the thigh of a full-grown dog, vigorous and of mean height. Five grammes of a mixture of the two extracts, A and B (extracts derived from the stomach and intestines of the widow de Pauw), were deposited in the interior of the wound, of which the edges were reunited by some points of suture. At this moment the pulsations of the heart were 102 per minute.

At 4 o'clock and 15 minutes in the evening the animal was dejected and anxious; lay down, breathing heavily and intermittently, the heart pulsating 86 times a minute; the animal had vomited, up to this time, twice.

At 8 o'clock in the evening the heart beat only 55 times in a minute, and was irregular and intermittent. Respiration was high and seemingly painful. The animal changed his position frequently, and uttered occasional stifled cries. He appeared to have preserved all his intelligence.

The next day, at 8 o'clock A. M., the strokes of the heart had increased to 90 per minute. The general condition was better, respiration seemed normal, and the anxious and depressed condition diminished; the animal got up and walked.

At 2 P. M. the contractions of the heart reached 90, with only occasional irregularity, the intermittency still continuing; respiration good, and the animal ate with appetite.

The condition of the dog continued to improve, and at the moment at which we write—six days after the experiment—he is out of all danger, and the wound in the thigh nearly healed.

It results, from these observations, that the dog, which was the subject of them, was under a true toxic influence, in consequence of the subcutaneous injection of the extracts A and B. This animal has presented a train of symptoms in every respect analogous to those presented by the first two animals experimented upon. If he has escaped death, it is only because the poisonous substance was introduced in too small quantity, and the more vigorous reaction of the dog.

Fifth Experiment.

Four grammes of the preceding extracts, A and B, administered to a rabbit, with the same precautions as in the former case, produced death in so short a time as to lead almost to a supposition that an accidental complication had hastened the action of the poison.

Sixth Experiment.

The results of the preceding experiments tending to demonstrate that the poisonous substance of which we had observed the effects, exerted its influence in a special manner upon the heart, we were desirous of comparing its effects with those of digitaline, which influences so directly the actions of this organ; and more especially as there was more than one reason for believing it to have been the poisonous agent employed.

With this view three frogs were simultaneously submitted to comparative experiments, and gave the following results:

The heart having been exposed, we observed in all three an equality—almost absolute—in the number and stroke of each.

To the first, nothing was done but to keep the heart in a humid condition.

To the second, there was made, under the skin of the belly, an injection of 6 drops of a solution of 1 centigramme of digitaline in 100 drops of water.

The third received, under the skin of the belly, an injection containing 50 centigrammes of extract O, that which had been derived from the matters vomited upon the floor.

The following is a tabular view of the variations in the number and rhythm of the strokes of the heart of these three animals

	Frog No. 1. Pulsations.	Frog No. 2. Pulsations.	Frog No. 3. Pulsations.
After	6 minutes	42	20
"	10 "	40	16 irregular.
"	20 "	40	15 "
"	26 "	38	0
"	31 "	36	0

With the two last frogs, when the heart had ceased to beat, the ventricles were contracted and the auricles dilated.

The muscular fibers of this organ examined microscopically, present no appreciable alteration in its anatomical elements.

Seventh Experiment.

We repeated a second time the comparative preceding experiments, with the identical same results, and in exactly similar conditions. On several occasions, besides, introduced under the skin of frogs, of which the heart had been exposed, a small quantity of extract O, and have always observed considerable diminution, with irregularity, in the contractions of the heart; the latter, towards the end of the experiment, never completely emptying itself of blood.

We insist upon making these details, because they offer a striking analogy with the scientific observations already made upon the characteristic phenomena of poisoning by digitalis, and especially with the alteration of the heart, pointed out by MM. Velpeau, Pelletan and Galion.

V. ANALYTICAL EXAMINATION OF THE EVIDENCE AND AFFIRMATIONS RELATIVE TO THE STATE OF HEALTH OF THE WIDOW DE PAUW; OF THE SYMPTOMS WHICH HAVE PRECEDED HER DEATH, AND THE STATE OF THE ORGANS REVEALED BY THE AUTOPSY EXAMINATION.

We would leave our task unfinished if, after having searched for the presence of poison in the dejections of the deceased, and in the organs extracted from the body, did we not pursue the study of the phenomena of poisoning in the symptoms which this woman has experienced, and the lesions which the autopsy has revealed. It would also be pertinent to the subject to ask ourselves whether she had not in reality been attacked by a disease which would permit the reference of her death to a natural cause; or if, through motives to which we have not referred here, she had not been induced to simulate certain infirmities of health, although her health, even to the verge of her death, had not been seriously impaired. The evidence accumulated in our instructions—the correspondence of the widow herself—the advice and prescriptions which had been rendered her by several physicians—furnish us, upon these several points, the most accurate and valuable indications, and afford us the means of arriving at conclusions of a very positive kind.

The widow de Pauw died on the 17th of November last; the cadaveric autopsy has demonstrated in the clearest manner that she was not suffering from any organic affection. The brain, the lungs, and the heart, that is to say the organs essential to life, were healthy; and notwithstanding the supposition to the contrary, there existed neither intestinal hemorrhage nor perforation of the stomach. These are material facts which cannot be denied. Let us add that at the very verge of her death, the widow de Pauw was seen to devote herself to her accustomed occupation, and that her diet was in every respect such as would be suitable for a person in perfect health. The first alarming symptom she experiences is in

the night previous to her death, and consist of repeated and violent vomiting, with alarming depression.

The distinguished physician who saw her during her last moments, Dr. Blachez, chief of the faculty of clinic medicine, affirms that she was pale and much agitated, bathed in a cold sweat, and complained of an insupportable headache; the pulse very irregular, intermittent, and then imperceptible; the contractions of the heart tumultuous, irregular, ceasing at times, and at times almost suppressed. M. Blachez compares these symptoms to those which are observed in persons dying from rapid internal haemorrhage. We must not lose sight of the fact that it is only a comparison, and a perfectly just one, expressive of the dominant feature of the case, namely, extreme debility of the central organ of the circulation. M. Blachez, in the means which he prescribed, directed all his efforts exclusively to the reanimation of the heart. It is impossible not to remark that these facts give a striking resemblance to those which were witnessed upon the animals.

To these positive facts is it sufficient to oppose mere hypothesis, interested assertions, or vague and incoherent hints, which would tend to show that this woman had been suffering for many years with a disease which would naturally tend to destroy her life.

A fall, alleged to have been made on her stair-case, was, according to her own statement, the commencement of her illness. "The fall (she writes on the 26th of September,) was so dreadful that the person who witnessed it and who went for a surgeon, did not expect to find her living. She vomited and spit blood by pots full; she threw up everything she swallowed, even water; * * she is killed inside, and suffers night and day. She had been to consult D. Godenot, who found her very ill. * * " And the next day she adds: "I have ceased to do anything, overwhelmed with suffering. The distress which I feel inside at the part on which I have fallen, is so severe that I cannot maintain any position with comfort;" in fine, at a later period she declares that M. Nelaton would not give her any hope.

There is here more than exaggeration; the imagination of Madam de Pauw completely perverts the facts. The fall over which she makes such a terrible ado had not in reality been followed by any serious results. It had caused neither fracture, concussion, nor external contusion; no person had ever seen traces of it, and the integrity of the organs, verified by an autopsy the most minute, proved that no lesion had internally been caused by the accident. Moreover no person seems to have partaken of the excessive fears of the widow herself.

M. Godinot, who asserts that he did not perceive the pretended contusions either upon the stomach or any other part of the body, did not look upon the case as very serious, since he was content with ordering some fomentations and lavements, with a mild regimen, and did not visit the patient again for three weeks or a month. When subsequently, whilst witnessing her sufferings at

the close of life, he spoke of the probability of perforation of the stomach, he committed an error, which was made manifest by the autopsic examination ; but it was a very pardonable error, when viewed in connection with her reiterated assertions of the great injury she had sustained ; more particularly as he had no reason to suspect any cause of death by violence or poisoning.

M. Nelaton, in reference to the prescriptions he had made for her gastric troubles, declared, as was easy to foresee, that he had never given so unfavorable a prognosis as had been attributed to him by the widow de Pauw.

As to MM. Velpeau, Danet, Desoomeux and Huet, they all agree upon one point, and their prescriptions verify the truth of the assertion, that they never regarded her health as seriously implicated. It must not be forgotten that several of these honorable gentlemen had examined her with reference to a policy for life insurance, and would have rejected her application had they not been satisfied her health was perfect.

In view of these facts, it is impossible not to be convinced that the widow de Pauw was entirely free from the disease which caused her death until a very few hours preceding it ; that, until then, she was either entirely well, or had not, at all events, been attacked by any serious illness ; and that in fine she had, without doubt, some sinister motives in creating the impression of her suffering, since she greatly exaggerated the consequences of a fall she had made, and had been, without obvious reasons, to consult a great number of physicians upon symptoms which rested upon no other basis than her own conflicting statements.

There are two things to which, in this connection, we should allude : first, the widow de Pauw was *enciente* about two months, and this early stage of utero-gestation might have produced some functional, gastric derangement ; secondly, that she had several times had recourse, by the advice of those not physicians, to the use of very active medicinal agents, such as prussic acid and digitaline, as if she had been impressed that she would finally succumb with all the symptoms of poisoning produced by this latter substance.

Conclusion.

To sum up the experiments, and analyses of the statements which we have made in our exposé of the preceding facts, we conclude :

First. That the widow de Pauw died from the effects of poison.

Secondly. The poison which has destroyed her life is of the nature of those which, derived from the vegetable kingdom, leave no trace in the organs, and which cannot be isolated by chemical analysis, but reveal their presence by their effects, and are detected by their deadly action upon living animals.

Thirdly. We have, in effect, extracted not only from the matters vomited by the widow de Pauw upon the floor, but also from the organs submitted to analysis, a poisonous principle, which, experimented with upon living animals, has produced in them analogous

effects to those experienced by the deceased ; and has caused them to perish in the same manner.

Fourthly. These effects and this action have a striking resemblance to those produced by *digitaline*, and without being able positively to affirm it, there is the strongest presumptive evidence of the fact that her death was due to this agent.

Fifthly. This woman was by no means sick before the day which preceded her death ; the pretended affections of the heart and stomach, for which she had repeatedly consulted different physicians, as well as the deplorable consequences which she attributed to a fall, are so many fables of her own invention.

Sixthly. The cadaveric autopsy has demonstrated, in the most positive manner, that she had not died from injury received in a fall ; nor from internal hemorrhage, or gastro-enteritis, either acute or chronic ; or from perforation of the stomach ; or any other natural cause.

Seventhly. Among the numerous and various objects seized at the house of the accused, we have pointed out a considerable quantity of poisonous substances, the possession of which cannot be justified by the requirements of a practicing physician, much less by the usages and teachings of the homeopathic school.

Eighthly. Among the poisons, we have pointedly drawn attention to the *large doses of digitaline*, and the amount already consumed by the accused.

(Signed)

A. TARDIEU and R. ROUSSIN.

Paris, 28th Jan., 1864.

Cases of Gastralgia and Irritable Stomach; Use of the Purified Oxide of Manganese.

From the perusal of Dr. Leared's observations on manganese as a remedy in diseases of the stomach, Dr. Rogers was led to make a trial of this drug in cases of obstinate dyspepsia. Two of the patients in the following cases suffered from gastralgia ; one from uterine derangement and sympathetic irritation of the stomach ; and in the fourth, the discomfort after meals was probably caused by exalted sensibility of the mucous membrane in the manner described by Dr. Leared.

M. S., aged twenty-nine, a florid-looking married woman, had been under treatment for severe pain at the scrobiculus cordis, with occasional vomiting, since the latter part of November, 1863. Various remedies had been tried, none of them affording more than temporary relief. Dr. Rogers prescribed for the patient oxide of manganese in doses of ten grains three times a day.

Jan. 12th.—There was some difficulty in persuading her to persevere with the medicine, as she complained of its extreme "grittiness."

15th.—Has had no vomiting; less pain. To leave off eating supper, but before bedtime to take a dose of the mixture.

19th.—No pain after meals yesterday; bowels costive. To take a senna draught immediately.

29th.—Has not felt so "light and cheerful" for months, and is full of profuse expressions of gratitude. No nausea after taking the medicine.

Feb. 9th.—Discharged cured, but recommended to continue the mixture once a day for another week.

J. C., aged thirty-four, employed in the main drainage works. Had symptoms very similar to the above, for which he had been treated early last autumn at the hospital, but soon discontinued his attendance. He came again on Jan. 19th, and attributed all his "queer pain" to the beer he drank, but could not make up his mind to forego his favorite luxury. The manganese was given in doses of ten and fifteen grains three times a day, the diet not being altered in the least. On the 9th of February he was discharged well, having taken altogether sixty-two doses of the manganese.

H. D., aged twenty, a young woman of nervous temperament. Suffers from leucorrhœa, and a few months since was in the hospital under the care of Mr. Bird, who removed a vascular excretion from the urethra. In addition to leucorrhœa, she complains of hypogastric pains, disrelish for food, and considerable thirst. There is a constant pain at the epigastrium, and occasionally rejection of the food immediately after it is swallowed. Dr. Rogers contemplated giving the oxide of silver, but the manganese has already done so much to relieve the gastric irritability that it is hoped a persistence in its use will effect a cure.

The fourth case is that of A. G., aged twenty-four, a laundress, who had constant heartburn and great discomfit after every meal, most likely attributable, as before stated, to unduly exalted sensibility of the mucous lining of the stomach, arising either from an irritable condition of the nervous filaments, or from excessive secretion of gastric juice, accompanied by increased vascularity. This patient was also troubled with shifting rheumatic pains. The uterine functions were regular; the bowels rather costive; tongue dirty. Bismuth gave no relief, and the mineral acids and bitter tonics were tried, but with no good effect. At times she was compelled to leave off work for a week together. Hydrocyanic acid and soda palliated the symptoms, but she was soon as bad as ever. On the 15th of January she commenced taking the oxide of manganese in ten grain doses three times a day, and steadily continued it up to the 9th of February, when she stated that she was free from all uneasiness, and was about to take a new situation.

These four cases which are not picked ones, but such as come before the hospital physician every time he attends in the out-patient rooms, are intended further to illustrate the effects of a valuable agent which Dr. Leared has already so successfully em-

ployed in the treatment of forms of certain dyspepsia. Its comparative cheapness is, as Dr. Leared says, a great recommendation for hospital practice. Independently of this, however, there is a strong probability that Dr. Leared is correct in affirming its superiority to bismuth in many cases of gastralgia.

At the West London Hospital the purified oxide of manganese is procured as originally recommended from Messrs. Garden and Robins, of Oxford street. It has not yet been exhibited in the form of powder, but as a draught ; the compound tragacanth powder being used to suspend the manganese. It may be as well to mention that Dr. Neligan has recommended the *sulphate* of manganese in dispeptic affections and bilious disorders, not with a view of sheathing the mucous surface denuded of its epithelium, which is Dr. Leared's aim, but of promoting increased biliary secretion.—*London Lancet.*

Case of Spotted Fever.

[To the Editor of the American Medical Times.]

SIR,—As much interest is felt in all that relates to Spotted Fever, I send you the following notes, though imperfect, of a case lately under my care : I was called May 6th, 1864, to J. L. M—, male, æt. 18 years ; found him suffering from intense headache ; rigors ; eyes suffused, and somewhat swollen ; pulse rapid and rather full ; not inclined to converse, although if spoken to he would answer in the shortest possible way. I found upon inquiry that for a day or two he had been drooping, and unable to attend to his usual duties. I prescribed a mild cathartic sinapism to back of neck and spine, and diaphoretics after the operation of cathartic. 7th.—Somewhat relieved of febrile symptoms, but still suffering from headache ; still disinclined to converse, only answering in monosyllables. As has been remarked, the symptoms were of those attending influenza, though in an aggravated form. 8th.—Pulse rather variable ; pain in head still continues ; tongue heavily coated and white. 9th.—Pain complained of in right ear, and not as much headache ; could detect no swelling. At this time my attention was called to an eruption upon the arm. Upon examination, I found not only upon the arm but covering nearly the entire surface of the body, an eruption of circular spots, not elevated, of a bluish color, not unlike ecchymosis. The spots were entirely distinct ; in size about half that of a five-cent piece. This eruption lasted for three or four days, gradually fading away, with some desquamation of cuticle.

On the 13th or 14th an abscess broke and discharged from the ear; discharge continuing for some days. Improvement was gradual, but under the influence of tonics, quinine, etc., patient improved favorably until the fourteenth day of the disease, when he left for his home in Western New York.

C. C.

Putnam Co., N. Y., July, 1864.

Report on Chloroform.

About two years ago the Royal Medical and Chirurgical Society of London appointed a Committee to inquire into the various points relating to the uses and administration of chloroform. The Committee was composed of the leading surgeons and physicians of London, and the results of their investigations are to have great weight. We cannot better present the substance of this report than in the following abstract condensed from a London contemporary :—

Among the topics embraced in the Report were the following : How chloroform destroys animal life ; Effects of chloroform on the heart's action, and on the respiration ; Effects of division of the pneumogastric nerve ; Effects of chloroform on the glottis and fauces ; Effects of ether ; *Post-mortem* examination of animals destroyed by chloroform ; Resuscitation in apparent death from chloroform ; Rules to be observed in cases of threatened death from chloroform ; Uses of chloroform in surgery, and in obstetric practice and the diseases of women and children, etc.

In investigating the manner in which chloroform destroys life, the Committee had made a number of experiments, chiefly on dogs. Mr. Clover's apparatus was used for the administration of air impregnated with from 1 to 14 per cent. of chloroform ; and, for mixtures of air and chloroform containing 40 per cent. or more of the latter agent, an apparatus was employed which allowed heat to be applied. The duration of animal life was found to be in an inverse ratio to the strength of the chloroform. A mixture containing from 1 to 2 per cent. was generally safe. When the strongest doses of chloroform were given, the pulse and respiration ceased almost simultaneously ; while the action of the heart continued somewhat longer. When the chloroform was inhaled in full doses through an aperture in the glottis, death was more rapidly induced, and the heart's action ceased before the pulse ; while the results of the administration of small or moderate quantities in this way differed little from those obtained by ordinary inhalation.

Observations with the haemodynamometer showed that the administration of chloroform was first attended with an increase of the heart's action, which was observed even when there was but slight struggling on the part of the animal. This increased action, however, seldom continued above a fraction of a minute ; after this, there was a gradual diminution, which, however, was liable to interruptions. The arrests in the fall of the heart's action appeared to correspond with the periods when respiration was lowered, and were therefore believed to be connected with a diminution in the quantity of the poison imbibed ; they were also modified by the introduction and withdrawal of air. In several instances, movements of the heart were observed, after the cessation of the rhythmic action of the organ. The duration of the rhythmic action of the heart was longest in cases where the strongest doses of chloroform had been used ; and

this was explained by supposing that, in such instances, the cessation of movements denoting life is more rapid, while the heart is more gradually and thoroughly enfeebled by the prolonged administration of smaller quantities.

With regard to respiration, it was observed that the concentrated vapor of chloroform produced spasm of the fauces and glottis, but only for a few seconds. After this, and when moderate doses were given, the respiration was increased in quickness for a time. The inspirations were at first deep; but subsequently became more and more shallow and less frequent, until arrest took place. Recovery could be produced in from twenty to forty seconds, if the chloroform were withdrawn; and this could be repeated two or three times. The explanation of the recovery offered was, that the entrance of the chloroform into the lungs was interrupted by the arrest of respiration, while at the same time that which had already been introduced was eliminated. The effects of ether were found to differ from those of chloroform in several respects. This agent exerted on the heart a stimulating effect, less sudden and more prolonged than that of chloroform; and, during insensibility, the pressure of the column of blood in the haemodynamometer was maintained up to the period of death, and until respiration had ceased; while its failure under chloroform occurred at an earlier period.

The Committee had made observations with the object of ascertaining the best means of avoiding accidents in the use of chloroform, to the agent employed, and to the method of administering it. A mixture containing from 2 to 4 per cent. of chloroform vapor and 96 or 98 per cent. of air might be inhaled without danger to life; and, if necessary, 4 or 5 per cent. of chloroform vapor might safely be used; but 10 per cent. was liable to produce dangerous symptoms. Ether to a certain extent fulfilled the conditions required; but the slowness of its action and its disagreeable odor were objections to its employment. In the absence of any other known anaesthetic agent capable of fulfilling the indications required, of efficacy and prompt action combined with safety, the Committee had made experiments with certain combinations of chloroform and ether; viz., *a*, a mixture proposed several years ago by Dr. Harley, containing 3 parts of ether, 2 of chloroform, and 1 of alcohol; *b*, one containing 4 parts of ether and 1 of chloroform; *c*, a mixture of 2 parts of ether and 1 of chloroform. The mixture *b* was found to be very similar in its effects to ether; air containing 15 per cent. of it might be inhaled with safety, but its action was very slow. The mixtures *a* and *c* were very similar in action, and were in this respect intermediate between ether and chloroform. In the human subject, insensibility could be produced by them with sufficient rapidity; and in animals could be maintained thirty or forty minutes without destroying life.

The effects of chloroform, the Committee had been led to conclude, depend much more on the degree of concentration of the agent than

on the mode of administering it. In the absence of any means of determining the quantity of chloroform vapor, the Committee thought the plan of administering chloroform on a handkerchief or lint least liable to objection. It should be held an inch and a half from the mouth, so as to freely admit air.

In regard to resuscitation after apparent death, the result of the inquiries of the Committee was, that artificial respiration by Dr. Silvester's method, *applied early*, was the most efficacious and easy plan. The cold douche on the face and chest was very inferior. Electro-galvanism and electro-magnetism were in many instances very effectual ; but they were not to be preferred in desperate cases, and were not equal to artificial respiration. Indeed, the Committee held that artificial respiration should never be delayed in order that other means might be tried ; it should be employed instantly, when alarming symptoms set in.

The Committee were of opinion, that chloroform ought never to be administered by careless or inexperienced persons. It should not be administered immediately after food, but three or four hours afterwards ; and, in cases of much depression, a little brandy might be first given to the patient. The recumbent position was preferred ; in the sitting posture, there is danger of syncope. The chloroform should be given slowly, and sudden increase should be avoided as being dangerous. The person administering it should carefully watch the respiration, and keep one of his hands free, so as to be able to examine the pulse from time to time. When pallor, failure of the pulse, or other dangerous symptoms appear, the chloroform must be withdrawn, and free access of air allowed ; the tongue should be drawn forward, and the mouth and fauces cleared ; the patient must be kept in the recumbent posture, and cold water should be dashed on his face, and the thorax compressed so as to favor respiration. In more severe cases, artificial respiration must be employed at once. The period within which resuscitation is possible varies from two to ten minutes.

In surgical practice, the administration of chloroform, in the opinion of the Committee, is not contra-indicated by the presence of heart-disease ; but fatty degeneration of the organ requires care. Chloroform may be given, with proper management, in operations on the mouth and throat. In operations on the deeper parts of the eye, it is undesirable, from the vomiting which may be induced. In hernia, it is highly valuable ; and in operations about the anus it is indispensable. The examination of the results of 2586 capital operations performed before chloroform inhalation was introduced, and of 1860 operations of similar character performed subsequently, proved that the rate of mortality had not been increased since the introduction of chloroform.

In obstetric practice, the use of chloroform in natural labor is not attended with danger ; no well-authenticated cases of death from its use having come to the knowledge of the Committee, although sometimes unfavorable symptoms have been produced. It may, in

moderate doses, protract labor; but does not always do so. It does not predispose to convulsion, nor does it interfere with lactation or with the general condition of the mother and child. In artificial labor, the inhalation of chloroform is very useful in many cases; but as a rule, should not be employed when there has been much hemorrhage, unless stimulants be also given. Chloroform is also useful as a means of facilitating diagnosis in diseases of women; and, both inhaled and applied as a liniment, in severe cases of dysmenorrhœa, neuralgia, etc. Chloroform inhalation was also favorably reported on as a remedy in the convulsive diseases of women and children.—*American Medical Times.*

Assimilation of Isomorphus Substances.

E. Roussin has performed a series of experiments on hens and rabbits, in order to ascertain whether similarity in form and composition is accompanied by any peculiar physiological properties. In one series of experiments, he investigated this question with regard to the shell of the hen's egg. This contains 90 per cent. of carbonate of lime; and he endeavored to ascertain whether other isomorphus carbonates could be made to replace the lime-salt in the shell. Accordingly, some hens, some time before laying, were shut up in wooden cages, at a distance from the ground and from any wall, and were fed with potatoes and oatmeal, or with oatmeal moistened with water. With their food, the substances with which the experiments were made, were mingled. The result of these experiments was, that carbonates of baryta, strontia and magnesia, peroxide of manganese, protoxides of iron, zinc, copper, lead, cobalt, or the oxides of these metals, were readily assimilated by the hens and eliminated in the coverings of their eggs. Alumina, sesquioxide of iron, manganese, and the oxides of antimony, were never found in the egg-shell.

Another series of experiments had relation to the soft parts of the egg. The albumen and yolk yield, on calcination, a notable proportion of chloride of sodium. As the alkaline iodides, bromides, and fluorides are isomorphus with this salt, it was endeavored to ascertain whether, after their administration, iodine, bromine, or fluorine, would be found in the egg. Not only was this the case, but the quantity of these elements present in the egg was remarkably large. They were apparently distributed in equal proportions between the albumen and the yolk. Eggs containing bromine, iodine, or fluorine, have no peculiarity of taste; and it is suggested that this observation may be made useful for therapeutic purposes.

The administration of the alkaline iodides, and especially of the bromides, was accompanied by a singular phenomenon, viz., the gradual disappearance, in some instances, of the calcerous cov-

ering, in proportion to the increase of the above named substances in the interior of the egg. This occurred in hens left at liberty, and having free access to carbonate of lime; and was not generally observed in strong birds with good appetite.

In a third series of experiments, it was endeavored to ascertain whether arseniate of lime could be assimilated and substituted for phosphate of lime in the bones—the arseniates being isomorphous with the phosphates. The result was found to be that, when small quantities of arseniate of lime are introduced into the food of a female rabbit, the animal gives birth to young whose bony skeleton contains a notable proportion of arsenic, while their muscular tissue contains scarcely any traces. The arsenical compound is also eliminated by the urine in the form of arseniate of ammonia and magnesia.

M. Roussin concludes from his experiments, that substances isomorphous chemically are assimilated and eliminated in a like manner from the animal economy, and may be regarded as isomorphous in a physiological point of view.—*Gazette Méd. de Paris, and Br. Med. Jour.*

A Singular Case of Fatal Injury. By C. S. WOOD, M.D.,
Surgeon U.S.A.

Charles N. Wallace, Irish, æt. 32, enjoying good health, married, an orderly of General Wright, was found on the morning of June 16th, 1864, lying in a state of unconsciousness near the stable door with the horse, which he evidently was about mounting, standing near saddled and bridled, with the halter tied around his neck. How long he had lain in this condition it was impossible to say. He was at once taken to his residence near by, where I was summoned, when I found the skull laid bare over the right temporal region to the extent of two inches, accompanied with fracture of the bones (stellated); no evident depression. He was, although unconscious, very restless, tossing himself about from one side of the bed to the other, rising up and constantly changing his position, which, with a feeble pulse, short breathing, pallor of the surface, coldness of the extremities, cold clammy perspiration, &c., led me to believe he had sustained more serious internal injuries; and on further examination, found evidence of the horse having stepped on him, in the right groin, just above the pubes and directly over the track of the femoral vessels. The tissues of the whole thigh, extending to the knee, were nearly double the size of the opposite, and infiltrated with blood. This infiltration extended to the scrotum, and up the abdomen, nearly to the umbilicus. A blood vessel was ruptured, and he was dying from haemorrhage; but what could be done? It was impossible to say what vessel was ruptured, or at what point; besides, he had already lost sufficient blood to prove fatal. The friends were apprised of the re-

sult which soon occurred, as he continued to become more and more restless, the pulse ceasing at the wrist, the extremities becoming cold, and died just at night, without in the least degree regaining his consciousness. From the nature of the injuries it appeared he must, in endeavoring to mount the horse, have fallen, when the animal turned and trod on him at both points of injury.

Autopsy twenty hours after death, assisted by Drs. Harkness and Nixon of Sacramento, California.—On making a triangular incision from the umbilicus to a position each side, midway between the superior anterior spinous process of the ilium and the pubes, and turning down the integuments, large quantities of coagula liberated themselves, besides being so infiltrated with blood as to increase their thickness to more than double their ordinary dimensions. On extending the incision down the left thigh, the same conditions presented themselves, liberating from this region more than two quarts of coagula. On carefully tracing up the femoral artery, a rupture was found of its entire coats large enough to admit the end of the finger, almost directly beneath Poupart's ligament, which fully explained the cause of death. The scrotum and pelvic cavity were also filled with blood, extending up over the peritoneum, but not within it. No injury of the intestines or bladder.

The case, to me, is somewhat of an anomaly, as the artery, heretofore sound and in a healthy condition, was completely ruptured without destroying the integrity of the superincumbent tissues.—*Amer. Med. Times.*

SACRAMENTO, CAL., June 20th, 1864.

A New State Emigrant Hospital.

A select company assembled at Ward's Island on the 10th inst. to witness the ceremony of laying the corner-stone of the New State Emigrant Hospital.

After an impressive prayer by the Rev. Mr. Peters, Mr. G. C. Verplanck, the venerable President of the Commissioners of Emigration, entertained the audience with a learned and eloquent address, in which he furnished a large amount of statistical information connected with the history of this enterprise. Taking the trowel he then proceeded with the usual ceremonies to lay the corner-stone, in which was first deposited a box containing Reports of the Commissioners of Emigration from 1849 to 1863; Reports of the Emigrants' Savings Bank from 1850 to 1863; Plans and Specifications of the building; New York daily papers; State Manual of New York; Manual of the City of Brooklyn; Coins; Fractional Currency, and business cards of some of the gentlemen present. The *Gloria in Excelsis* was then sung, in which a great number of voices joined, and the benediction pronounced by the

Rev. Mr. Peters, after which the company adjourned to the house of the superintendent, where they partook of a sumptuous dinner. Speeches were made by Mr. Verplanck, Thurlow Weed, E. F. Purdy, Dr. Carnochan, and a number of other eminent citizens. The following is a description of the new hospital:

The hospital buildings are five in number, arranged upon the pavilion plan, the center building being three stories high, the other four buildings two stories high, separated by a wide court-yard, completely isolating them from each other. The wards are upon the southern portion of each pavilion, and the cold northern storms are cut off from each ward by the nurses' room, dining-room, closets, hall, &c., thereby equalizing the temperature of the wards and assisting in their ventilation. Each of the pavilions is connected by corridors large enough to be used by the convalescent patients as a sanatorium, and they are to be furnished with books, papers, and other sources of amusement. These sanatoriums are sufficiently separated from the wards to enable the convalescents to amuse themselves without disturbing the patients who are unable to leave their beds. These corridors serve also to connect the several pavilions, bringing them all under one roof, enabling the officers and attendants to visit all parts of each pavilion without being exposed to the open air. They also simplify and aid the ventilation and warming of the entire hospital. The ventilation and warming will be done by steam taken from the boilers placed in a disconnected building, to be located near the center of the hospital. These boilers also supply the steam for the kitchen, laundry, and bakery.

The hospital will accommodate the superintendent's offices, reception room, physician's offices, apothecary's shop, laboratory, baggage and store rooms, large operating theatre, museum, instrument room, and all the necessary nurses' rooms, dining rooms, water-closets, bath rooms, and bedding rooms for each ward. The wards will accommodate three hundred beds. Each bed will have twelve hundred cubic feet of air, which is the largest number of feet allowed in any of the best existing hospitals. The building will be plain in style, appropriate to the purpose for which it is intended, and will be built in a substantial and thorough manner throughout, at an expense of about three hundred thousand dollars.—*Amer. Med. Times.*

Post-Partum Hæmorrhage.

In an able communication on post-partum hæmorrhage, now publishing in the Medical Circular, by Dr. J. L. Early, obstetric surgeon to the Queen's Hospital, Birmingham, we select the following:

As well known, the late Dr. Rigby recommended the application of the child to the breast soon after delivery as a means of preventing post-partum hæmorrhage. I have tried this plan, and

found it answered in some cases, while it failed in others. In order to apply the child to the breast, the mother is obliged to make some exertion, for the breast has to be exposed; then this plan fails very often, because the child will not or cannot suckle. The new-born infant is sometimes disinclined to suckle immediately after its birth; or it cannot do so from the mother having a small or flat nipple, or from some fault on its own side, as cleft palate, or tied tongue, for example. The mother, in her anxiety to make the child take the breast, moves herself, thinking that perhaps her position is awkward to the infant, or she pulls the child to her, and tries by every means in her power to make it take hold of the nipple. These movements of the patient are liable to place her in danger; and I have seen one or two instances of flooding after labor, the cause of which I could not attribute to anything else but the exertion made by the mother in the often fruitless attempts to get the child to suckle. For the above reasons, I have for some time discontinued the application of the child to the breast as unsatisfactory.

In its place, however, I substitute, in cases where the uterus seems disinclined to contract, a plan which is exactly the same in principle, has all the advantages, without any of its disadvantages. It consists of compression of the breast with the hand. If we place one hand upon the uterus, while we grasp the breast with the other, the uterus will be felt to contract almost instantaneously. As the patient lies on her left side, the hand should be passed under the axilla of her right arm; the hand will then come at once upon the breast. Gentle compression or squeezing of the breast should be employed at regular intervals. Latterly, I have somewhat modified the mode of exciting sympathy between the breast and uterus. Instead of squeezing the breast, I imitate the sucking action of an infant by placing the thumb and index finger on each side of the nipple, about an inch and a half or two inches from each other, and then I draw them forward just in the same way as if I were desirous of drawing a little milk to the apex of the nipple for microscopical examination in case of suspected pregnancy, only the action must be much quicker, and repeated frequently. As a preventive means, there is no necessity for the medical attendant to use this precaution himself. The nurse should be shown how to manage it. She merely has to pass her hand under the axilla of the arm of the patient, feel for the nipple outside the chemise, and use the thumb and finger as described. In some cases when I am going to remove the placenta, I direct the nurse to place her left hand upon the breast, and the right hand on the uterus, and press them both at the same time, while I remove the placenta. It assists in insuring a firm contraction of the uterus.

The irritation of the mamma with the hand is preferable to the application of the child to the breast, for the following reasons: 1. It insures perfect rest to the mother. 2. It can be kept up for any length of time. 3. There is no chance of failure in its application.

It is not requisite to employ this precaution in every instance; only in those cases where the uterus feels flabby, and there is great difficulty in stimulating it to contract. Before leaving the house, if I have any apprehension of haemorrhage commencing after my departure, I give the nurse directions to continue its employment for some considerable time.

[From the Washington Chronicle.]

The Case of Surgeon-General Hammond.

We present our readers this morning with the report of the Judge Advocate General in this remarkable case, which engrossed a court-martial for so many weeks, together with the President's order in confirmation of the sentence of the court. The following officers composed the court:

Major-General R. J. Oglesby, Vols., President.

Brigadier-General W. S. Harney, U.S. army.

Brigadier-General W. J. Ketchum, U.S. vols.

Brigadier-General G. S. Greene, U.S. vols.

Brevet Brigadier-General W. W. Morris, colonel 2d U.S. artillery.

Brigadier-General A. P. Howe, U.S. vols.

Brigadier-General J. P. Slough, U.S. vols.

Brigadier-General H. E. Paine, U.S. vols.

Brigadier-General J. C. Starkweather, U.S. vols.

Major John A. Bingham, judge advocate.

JUDGE ADVOCATE GENERAL'S OFFICE,
May 17, 1864.

To the Honorable the Secretary of War:

Brigadier-General William A. Hammond, Surg.-General, United States army, was tried upon charges of "disorders and neglects, to the prejudice of good order and military discipline," "conduct unbecoming an officer and a gentleman," and "conduct prejudicial to good order and military discipline."

The specifications which set forth the statement of facts alleged, and found by the court to constitute these offences, are as follows:

CHARGE 1st—"Disorders and neglects, to the prejudice of good order and military discipline."

Specification 1st—"In this: that he, Brigadier-General William A. Hammond, Surgeon-General, United States army, wrongfully and unlawfully contracted for, and ordered Christopher C. Cox, as acting purveyor in Baltimore, to receive blankets of one William A. Stephens, of New York. This done at Washington city, on the seventeenth day of July, in the year of our Lord one thousand eight hundred and sixty-two."

Specification 2d—"In this: that he, Brigadier-General William A. Hammond, Surgeon-General as aforesaid, did, on the thirtieth day of May, in the year of our Lord one thousand eight hundred

and sixty-three, at Washington city, wrongfully and unlawfully prohibit Christopher C. Cox, as medical purveyor for the United States in Baltimore, from purchasing drugs for the army in Baltimore."

Specification 3d—"In this : that he, the said Brigadier-General William A. Hammond, Surgeon-General, United States army, did unlawfully order and cause one George E. Cooper, then medical purveyor for the United States, in the city of Philadelphia, to buy of one William A. Stephens blankets, for the use of the Government service, of inferior quality ; he, the said Brigadier-General William A. Hammond, then well knowing that the blankets so ordered by him to be purchased as aforesaid were inferior in quality, and that said Purveyor Cooper had refused to buy the same of said Stephens. This done at Philadelphia, in the State of Pennsylvania, on the twenty-eighth day of May, in the year of our Lord one thousand eight hundred and sixty-two."

Specification 4th—"In this : that he, the said Brigadier-General William A. Hammond, Surgeon-General as aforesaid, on the fourteenth day of June, in the year of our Lord one thousand eight hundred and sixty-two, at the city of Washington, in the District of Columbia, unlawfully, and with intent to aid one William A. Stephens to defraud the Government of the United States, did, in writing, instruct George E. Cooper, then medical purveyor at Philadelphia, in substance as follows :

"SIR : You will please purchase of Mr. W. A. Stephens eight thousand pairs of blankets, of which the inclosed card is a sample. Mr. Stephen's address is box 2,500, New York. The blankets are five dollars per pair."

Specification 5th—"In this : that he, the said Brigadier-General William A. Hammond, Surgeon-General, United States army, on the sixteenth day of June, in the year of our Lord one thousand eight hundred and sixty-two, at the city of Washington, did corruptly, and with intent to aid one William A. Stephens to defraud the Government of the United States, give to the said William A. Stephens an order, in writing, in substance as follows : 'Turn over to George E. Cooper, medical purveyor at Philadelphia, eight thousand pairs of blankets ;' by means whereof the said Stephens induced said Cooper, on Government account, and at an exorbitant price, to receive of said blankets, which he had before refused to buy, seventy-six hundred and seventy-seven pairs, and for which the said Stephens received payment at Washington in the sum of about thirty-five thousand three hundred and fourteen dollars and twenty cents."

Specification 6th—"In this : that he, the said Brigadier-General William A. Hammond, Surgeon-General, United States army, on the thirty-first day of July, in the year of our Lord eighteen hundred and sixty-two, at the city of Philadelphia, in the State of Pennsylvania, well knowing that John Wyeth and Brother had before that furnished medical supplies to the medical purveyor at

Philadelphia, which were inferior in quality, deficient in quantity, and excessive in price, did corruptly, unlawfully, and with intent to aid the said John Wyeth and Brother to furnish additional large supplies to the Government of the United States, and thereby fraudulently to realize large gains thereon, then and there give to George E. Cooper, medical purveyor at Philadelphia, an order, in writing, in substance as follows :

“ You will at once fill up your store-houses, so as to have constantly on hand hospital supplies of all kinds for two hundred thousand men for six months. This supply I desire that you will not use without orders from me.”

“ And then and there directed said purveyor to purchase a large amount thereof, to the value of about one hundred and seventy-three thousand dollars, of said John Wyeth and Brother.”

Specification 7th—“ In this: that he, the said Brigadier-General William A. Hammond, Surgeon-General, United States army, about the 8th day of October, in the year of our Lord eighteen hundred and sixty-two, at Washington city, in contempt of, and contrary to the provisions of the act entitled ‘ An act to reorganize and increase the efficiency of the medical department of the army,’ approved April 16, 1862, did unlawfully direct Wyeth and Brother, of Philadelphia, to send forty thousand cans of their ‘ extract of beef’ to various places, to wit: to Cincinnati, St. Louis, Cairo, New York, and Baltimore, and send the account to the Surgeon-General’s office for payment.”

CHARGE 2d—“ Conduct unbecoming an officer and a gentleman.”

Specification 1st—“ In this: that he, Brigadier-General-William A. Hammond, Surgeon-General, United States army, on the thirteenth day of October, in the year of our Lord eighteen hundred and sixty-two, at Washington city, in a letter by him then and there addressed to Dr. George E. Cooper, declared in substance that the said Cooper had been relieved as medical purveyor in Philadelphia, because, among other reasons, ‘ Halleck,’ meaning Major-General Henry W. Halleck, General-in-Chief, requested as a particular favor that Murray might be ordered to Philadelphia; which declaration so made by him, the said Brigadier-General William A. Hammond, Surgeon-General, as aforesaid, was false.”

An additional charge and specifications preferred against Brigadier-General William A. Hammond, Surgeon-General, United States army :

CHARGE 3d—“ Conduct to the prejudice of good order and military discipline.”

Specification 1st—“ In this: that he, the said Brigadier-General William A. Hammond, Surgeon-General, United States army, on the 8th day of November, A. D. 1862, at Washington city, did unlawfully order Henry Johnson, then medical storekeeper and acting purveyor at Washington city, to purchase three thousand blankets of one J. P. Fisher, at the price of \$5.90 per pair, and to

be delivered to Surgeon G. E. Cooper, U. S. A., medical purveyor at Philadelphia."

A plea of not guilty was entered upon each of the charges and specifications, and after a full hearing of the testimony for the Government and the defense, and the examination of a large amount of documentary evidence, together with the consideration of the elaborate arguments of both sides, the court rendered a finding of guilty on all the charges, and sentenced the accused to be dismissed the service, and to be for ever disqualified from holding any office of honor, profit, or trust, under the Government of the United States.

In reporting upon this case, the second charge—conduct unbecoming an officer and a gentleman—will be first considered.

Under this charge it was alleged that accused made a false declaration, in writing, that Dr. Cooper had been relieved from his position as medical purveyor at Philadelphia, because, among other reasons, General Halleck had requested, as a particular favor, that Dr. Murray might be ordered to duty in that city.

It appears from the evidence that, on the 8th of October, accused requested of the Adjutant-General that Dr. Cooper be relieved from duty as medical purveyor at Philadelphia, by Dr. Smith. On the 13th he wrote a letter to Dr. Cooper, as follows :

"MY DEAR DOCTOR,—I have just received your note. The detail for your relief from duty went to the Adjutant-General a few days since. I told Smith to tell you of it. It was with great reluctance, even with pain, that I made the detail. I am entirely satisfied with your energy, faithfulness, and acquaintance with your duty; but I found great complaints made in regard to your manners, which were constantly reiterated from medical officers and citizens of standing. I believe the change would have been made over my head had I not made it myself. I was forced to come to the conclusion that it was necessary to be done. Once before the detail was made, but I would not sign it, and this time it lay on my table several days. This is one reason. The second is even more imperative. Halleck requested, as a particular favor, that Murray might be ordered to Philadelphia. There was nothing for Murray to do there but to take your place, King's, or Smith's. The latter have both been in active service, and I thought it best to relieve you on that account.

"As A. K. Smith is, in my opinion, better suited to perform the duties of purveyor than Murray, I decided to make him purveyor, and Murray medical director of transportation.

"I assure you that, so far as your official action is concerned, I have not the least fault to find.

"Yours sincerely,

"W. A. HAMMOND."

General Halleck testified, substantially, that "to the best of his recollection," he never made any request of the accused to order Dr. Murray to Philadelphia; the only communication he ever made to him on the subject being a letter on the 1st of October, stating

that Dr. Murray had served long and faithfully in the field, with the army in the West, and would like to be transferred to Eastern hospital duty, and asking the consideration of his case.

On the part of the defense, a letter from Dr. Murray to General Halleck, dated Louisville, September 27th, was submitted, in which Dr. Murray stated to General Halleck, that if he would request the Surgeon-General to order him to Philadelphia, it would "be done at once." And it was claimed by the accused—but not shown—that General Halleck, besides writing the letter of October 1st, in which he asked that Dr. Murray's desire to be ordered East on "hospital duty" might be considered, also, in some personal interview, made a verbal request that he be assigned to that duty in Philadelphia.

The argument of the Judge Advocate on this charge may be found on pages 57 to 59 of his "Reply," and that of the counsel for the accused on pages 51 to 53 of the "Defense."

The findings upon the first and third charges involve questions of law as well as of fact.

It was contended by the accused (see pages 9 to 16 of the "Defense") that the Surgeon-General had the power to control all purchases of stores for his department; to order purveyors when, at what places, of whom, and at what prices they should procure them; and further, that he might purchase them himself.

It was submitted by the Judge Advocate (see pages 4 to 7 of his "Reply") that the acts of Congress of April 16, and July 17, 1862, limited the authority of the Surgeon-General to the direction when to purchase, and the kind and quantity to be procured; that, having given this direction, his lawful authority was determined, leaving to medical purveyors, under bonds for the proper discharge of their responsibilities, the whole duty of selecting in such markets, and of buying from such persons, and upon such terms as their judgment dictated.

The former of these enactments provides "that medical purveyors shall be charged, under the direction of the Surgeon-General, with the selection and purchase of all medical supplies, including hospital stores," &c., &c.

The latter makes provision that medical purveyors shall give bond, with approved security, in such sums as the Secretary of War shall require, for the faithful performance of their duties.

It would seem, from the express language as well as from the reason of the law, that the position taken by the Judge Advocate was correct, and the decision of the court upon this issue was warranted. But it is deemed unnecessary to bestow further consideration upon this question. The findings of the court, that the accused ordered the purveyors to purchase supplies of inferior quality, well knowing them to be such, and to purchase articles at exorbitant prices, with corrupt intent to aid in defrauding the Government, and that he ordered the purchase of "additional large supplies," "corruptly," and "with intent to aid" certain persons "fraudulently to realize large gains thereon," impute much more than a

mere technical over-stepping of the limits of the enactment of April 16, 1862. They convict him of official corruption, abuse of power, and a gross breach of public trust.

The proof upon which these findings are based was offered in support of the 3d, 4th, 5th, 6th, and 7th specifications to the first charge. It is not requisite in this report to collate and comment upon it. The full presentation of the whole case by the Judge Advocate relieves this office of the necessity of entering into that detailed discussion of the facts and legal questions involved which, under different circumstances, would have been proper.

In his "Reply," and the "Defense" of the counsel for the accused, both of which are printed and attached to the record, the important portions of the evidence and all the prominent features of the proceedings are presented as concisely as the voluminous character of the testimony would admit.

That the natural and necessary result of the acts of the accused, as established by the record, involved a criminal spoliation of the Government treasury, which would alone have called for his dismissal from the service, cannot be denied; but when it is remembered, as shown by the proof, that this spoliation was in part accomplished by the purchase of inferior medical supplies and stores —thus compromising the health and comfort, and jeopardizing the lives of the sick and wounded soldiers suffering in the hospitals and upon the battle-fields of the country—soldiers solemnly committed to the shelter and sympathies of the office held by the accused, by the very law and purpose of its creation—it must be admitted that this fearfully augments the measure of his criminality.

The trial, which lasted nearly four months, was one of the most patient and thorough that has ever occurred in our military history; and the accused had throughout the assistance of eminent and able counsel in conducting his defense. The court, which was composed of nine general officers, at the close of this prolonged investigation, declared him guilty of the charges preferred, and awarded the punishment which, in their judgment, was in accordance with the nature and degree of the offenses committed; and a careful examination of the record leaves no room for doubt as to the validity of the proceedings, or the justness of the findings and sentence.

J. HOLT,
Judge Advocate General.

The following is the President's order confirming the sentence in this case :

"The record, proceedings, findings, and sentence of the court in the foregoing case are approved; and it is ordered that Brigadier-General William A. Hammond, Surgeon-General of the United States Army, be dismissed the service, and be for ever disqualified from holding any office of honor, profit, or trust, under the Government of the United States.

"A. LINCOLN.

"AUGUST 18, 1864."

Bibliographical Notices and Reviews.

Memoranda on Poisons. By THOMAS HAWKES TANNER, M.D., F.L.S., Assistant Physician for the Diseases of Women and Children to King's College Hospital, etc. From the last London Edition. Philadelphia: Lindsay & Blakiston, 1864. Pp. 116. Price 50 cts. Author of "A New Manual on the Practice of Medicine," and also of "A Practical Treatise on the Diseases of Infancy and Childhood."

This work is intended to refresh the memory of the practitioner on a subject which is not brought under his notice so frequently as many other departments of medicine. The reader, by consulting this work, may see at a glance the treatment to be adopted in each particular instance of poisoning to which a medical man is liable to be summoned.

The writer of this little volume seems to think the crime of slow poisoning is pretty extensively practiced in the present day. This work will assist the physician very materially in ferreting out the villainous administration of deadly drugs.

Toxicology is a branch of medical science which discusses the nature, properties, and effects of poisons. Various attempts have been made to define a poison, but none of them will bear a critical examination. Most medicines are poisonous in improper doses; indeed, almost anything in improper quantities or taken at an improper time may be regarded as approximating the character of a poison. The law regards any substance as a poison if given with the *intent* to do mischief.

"Whoever shall administer or cause to be taken by any person any poison or other destructive thing, with *intent* to commit murder, shall be guilty of felony, and being convicted thereof, shall suffer death." Another act provides for the punishment of a prisoner "should life be endangered or grievous bodily harm result."

The following, on the Diagnosis of Poisoning, may be regarded as a fair sample of the work :

"**DIAGNOSIS OF POISONING.**—The chief characteristics of poisoning mentioned by authors of repute, are that the symptoms commence suddenly, after taking

any substance or fluid into the stomach, the individual being in a state of health ; that they increase steadily, and are uniform in their nature throughout their course ; and that they prove rapidly fatal. There are many exceptions to these rules. Thus, if the stomach be loaded the appearance of the symptoms will often be delayed some few hours. Sleep, according to Dr. Christison, may retard the action of some agents ; so that if a person fall asleep soon after swallowing arsenic or strychnia, for example, no effect may ensue for four or five hours. Intoxication will mask the effect of narcotics. Again, the individual poisoned may be suffering from disease, and an agent may be given which will only aggravate existing symptoms ; or sometimes a poisonous draught is substituted for the harmless medicine. And lastly, after a poison has manifested its effects, the symptoms often remit for a time.

" When a poison is administered with a criminal intent, it is generally in such a dose as to take immediate effect ; although this is by no means necessary, as there are numerous substances which accumulate in the system, and when given in small and repeated quantities, ultimately prove fatal. It must also be remembered that there are many diseases, as malignant cholera, internal haemorrhage, &c., which commence suddenly, and rapidly run to a fatal termination. In inflammation of the stomach or intestines the symptoms often set in suddenly, and might be mistaken ; and such is also the case in intestinal obstruction, and especially in ulceration and perforation of the bowels. So also in organic diseases of the heart, where the symptoms may have remained latent for some time, death often occurs suddenly from syncope. The diagnosis of the effects of irritant poisons is not so difficult as it is in the case of narcotics or narcotico-irritants, where the symptoms are very similar to those produced by apoplexy, epilepsy, tetanus, convulsions, and disease of the brain.

" Generally speaking, a person may be supposed to be poisoned, if after taking food or drink, he be seized with violent pain, vomiting, disorder of the alimentary canal, and convulsive movements : or if he be attacked under the same circumstances with vertigo, delirium, or great drowsiness. It must not be forgotten, however, that poisons may be introduced into the body by means of enemata, or in females by vaginal injections, or by inhalation, or through the true skin after the removal of the cuticle. Should death ensue, the presumption of unfair play will of course be strengthened by the discovery of post-mortem appearances similar to those known to be produced by the poison from which the person apparently suffered.

" The post-mortem appearances, however, except in a few instances, are by no means to be relied upon ; and the two symptoms, excessive lividity of the body, and early putrefaction, formerly supposed to indicate death by poison, are now known to be as frequently produced by natural disease. It may nevertheless be generally remarked, that the appearances after death, which may be produced by poisons, are in one great class, the signs of inflammation of the alimentary canal ; in another, the signs of congestion of the brain ; and in a third, a combination of the two.

" The detection of poison in some of the food which has been taken, or in the matters vomited, would seem to be conclusive evidence ; but it is to be recollected that designing persons have mixed noxious materials with food or rejected matters, in order to feign poisoning, or to cast unjust imputations upon others.

"When a practitioner is called to a case where death is supposed to have resulted from poison, he ought to make written notes of his observations. He should inquire the time at which any substances was last taken, the nature of the symptoms and the hour at which they commenced, and the precise time at which death occurred. He must take possession of any food, medicine, vomited matters, urine, or faeces which may be in the room; and, if possible, he is to seal them up, in clean vessels, duly labeled, for examination. Any voluntary explanation by the attendants is to be noted. Then the position and temperature of the body are to be observed, the appearance of the countenance, the presence or absence of rigor mortis, with the nature and warmth of the apartment, the situation of any marks of violence, and the condition of the inside of the mouth and gullet. If the examination is to be carried further, as it ought to be, the oesophagus and stomach, with the contents, must be carefully removed for analysis: the contents of the duodenum are to be taken in a separate clean vessel: the mucous lining of the intestines is to be carefully looked to, particularly that of the rectum: and, in women, the vagina, uterus and ovaries must be inspected. The brain, spinal cord, and thoracic viscera ought likewise to be examined: and a portion of the blood, liver, spleen, kidneys, and muscles should be reserved for analysis. No antiseptic or preservative fluid is to be used. When possible it will be better to make the autopsy within twenty-four hours after death; taking care to do so patiently, thoroughly, and free from any bias. Poison may be found in a body, and yet a question may arise as to its having been the cause of death. Hence in these investigations every organ of the body is to be examined, in order to learn whether any disease has existed sufficient to account for the fatal result.

"If proof can be given that a person has died from the administration of a poison, it is not necessary that the poison be detected by chemical analysis to insure the conviction of the party guilty of giving it. Setting aside the fact that the poison may have been expelled from the system by excessive vomiting or purging, or that it may have been eliminated by the kidneys, or that it may have been decomposed in the body, the substance may be one that in the present state of science chemists are unable to detect in the tissues. This is especially the case with many vegetable matters, and with the powerful alkaloids extracted from them. It is in such instances, more particularly, that experiments on animals are sometimes made; though care must be taken not to place too much reliance upon the results. Dogs, cats, guinea-pigs, mice, and frogs are the animals usually selected for trial; and the experiments may be made with the suspected articles of food or drink, or with the matters vomited, or with the flesh of poisoned animals. In drawing up a medico-legal report the observations must be made under three heads,—the symptoms during life, appearances after death, and the chemical analysis. The exact time and date is to be given, the simplest language is to be used, and the report is to end with the conclusions drawn from the facts. The practitioner must remember that he will probably have to appear in the witness-box, when every expression he has adopted may be roughly criticised. Let him recollect, too, that he is merely a skilled witness—a calm, truthful interpreter of scientific facts. As he is neither a judge nor an advocate, so he must curb his imagination; and especially should he beware of straining the data afforded by his investigations in order to serve any particular object."

The Pathology and treatment of Venereal Diseases; including the results of recent investigations on the subject. By FREE-MAN J. BUMSTEAD, M. D., Lecturer on venereal diseases in the College of Physicians and Surgeons, New York; late Surgeon to St. Luke's Hospital; Surgeon to the New York Eye and Ear Infirmary. A new and revised edition. With illustrations. Philadelphia. Blanchard and Lea, 1864.

We are gratified, but not surprised, that a new edition of Dr. Bumstead's treatise on venereal disease should be so speedily called for by the entire exhaustion of the first, which appeared only two years since. A work possessing so many claims upon the practitioner as well as the student, and supplying a dissideratum acknowledged by all, we felt could not be long in winning its way to popular favor.

When this work first appeared we made a somewhat extended analysis of its contents, especially with reference to its teachings in regard to the new pathological views of the author, derived, as he states, mostly from the modern French school, and predicted for them a complete and permanent success. Our predictions have happily been verified. The views here set forth are now those of all leading authorities.

We notice that the author has divided his work into three parts, in place of ten, as in the former editions; making it thus conform more accurately with the natural divisions of the subject, viz: Consisting of Gonorrhœa, Chancroid, and Syphilis rejecting as illogical and indeterminate the old terms "soft chancre" and "hard chancre." This change necessitated the re-writing of a considerable portion of what constituted the second part of the first edition. We also notice, in looking over its pages, that, as the author remarks in his preface, "the practical portion of the work has also undergone important alterations on various topics, among which may be mentioned the treatment of stricture by the immediate plan of Mr. Holt; the abandonment of specific remedies in most cases of initial lesion of syphilis; the preference given to the external rather than the internal use of mercury in secondary and tertiary syphilitis; and the necessity of trusting to nature, aided by hygienic influences, and not to treatment indefinitely prolonged after the disappearance of all syphilitic manifestations, to eliminate the virus from the system." These various alterations and additions bring the work up to a level with the most advanced state of

our knowledge of the subject, and leave in this respect nothing to be desired.

The author expresses his surprise that the success of the work should have been so considerable in a time of civil war, when medical literature, except on military subjects, is supposed to be almost stagnant.

We do not concur with the author in this view of the subject. If the war has not already, it certainly will increase the demand for works of this kind. Licentiousness, in proportion to the means of indulgence, has always been a vice common to armies, and probably *par excellence* to the army and navy of the United States. The extreme prevalence of all forms of venereal disease among our returned volunteers is well known to most physicians; it is carried by them into rural districts and places where under the former conditions of things it was scarcely known to exist.

Physicians occupying these remote localities, whose attention heretofore has scarcely been directed to the subject, will be called upon to treat this disease in all its protean forms. We cannot do them a greater favor than that of directing their attention to this work. A familiarity with its teachings, and ample directions for treatment, will save them from many mortifying blunders and humiliating failures, and prove abundantly remunerative even in a pecuniary point of view. The work is ably and handsomely illustrated, and the paper and typography leave nothing to be desired in this respect.

R. D. D.

Editorial and Miscellaneous.

Surgeon-General Hammond.—In this number we publish the result of the trial of Surgeon-General Hammond. The affair goes to the public from the authorities at Washington, and in a way that not only makes a sad impression upon the reader, but leaves little hope that any thing that may be offered in the way of extenuation by Doctor Hammond or his friends, can prove of avail. Doctor Hammond, however, some time since asked a suspension of public opinion on his case until he had time to give a full expose of all the facts in connection therewith. Cheerfully, most cheerfully, will this request be granted, and in the meantime the hope will be indulged that he may prove equal to the emergencies before him.

In this connection, may we not ask the reason why the “*Calomel Tartar-Emetic Order*” still stands in force? The present Surgeon-General should look into this matter, for the profession may be inclined to hold him responsible in the event that no action is taken on his part touching the removal of the offensive measure from the list of hospital regulations.

The profession in the army has been disgraced by this Order, and the sooner it is dispensed with the better. The idea of tieing the hands of the surgeons of the army with reference to the use of drugs!

The University Medical and Surgical Journal of Philadelphia.—A periodical of the above title has been laid on our table. On first noticing it we supposed it emanated from the old and renowned University, and had an agreeable emotion or two on the supposition that we were about to have a very nice addition to American journalism. On turning, however, through the leaves to get a glimpse of tendencies, we noticed under the head of “*Association vs. Progression*” what seem to be satisfactory. The work is to be devoted to the great business of taking apart all existing things, and after this to their reconstruction on different principles. Every thing in the sciences, we are informed, and especially in medicine, requires regeneration, in order to be in harmony with

the influences, social and political, that are agitating society!! Besides, selfishness, intolerance, and bigotry characterize all our associations to an extent that destroys their usefulness and confines them to a narrow system of philosophy! The days of the aristocracy of learning are numbered! General intelligence, with which the masses are so liberally endowed, will no longer submit to the annoyance of a pretended and self-constituted literati.

Such is the talk of this new-comer among medical periodicals. We have heard something of the kind before. Of course old institutions and all other old things ought to be abandoned. Why not commence *de novo* in every thing—in anatomy, chemistry, therapeutics? Why attempt to preserve any thing that has been accumulated? Why not let the work of disintegration, now so prosperous, go on until it does its perfect work?

Badinage aside, the appearance of this and similar publications within the past year indicate very positively that humanity in certain regions is not in a very happy mood with reference to existing things, and that it is the intention to make a change. It might be well enough for the projectors of these publications to look at themselves a little; such an operation may do them good. It's so nice to be able to see ourself.

This journal, we suppose, comes to us for "exchange." We will give the matter, of course, careful consideration. But just now we fail to see how we are to be benefitted by the operation.

Starling Medical College.—The next session of this Institution commences on Thursday, the 20th October, 1864, and will continue until the 1st March, 1865.

The dissecting rooms, now elegantly lighted up with gas, will be open on the 1st October for the study of practical anatomy. The fees are the same as heretofore. Boarding and other accommodations will, perhaps, be found as reasonable in Columbus as any where in the West where Medical Colleges are located.

Hospital privileges in Columbus are now very good. The Ohio Penitentiary, County Infirmary, and the Military Hospitals of the city furnish a large amount of material for clinics. Besides, there is now very good reason to expect that the hospital wing of the College building will be occupied by the Sisters of St. Francis as a charity hospital during the present session.

American Thermaceutical Association.—This body meets in Cincinnati on the 21st of September next. This is its Twelfth Annual Meeting. The Committee of Arrangements have selected the Catholic Institute as the place where the delegates will meet.

The British Thermaceutical Conference will hold its Second Annual Meeting in the City of Bath, England, on the 14th of September.

The *Eighth French Thermaceutical Congress* was to have met on the 17th of August at Strasburgh.

In chronicling the passing condition of the public health we would note the more than usual dispositions to disturbance of the bowels during the past summer months and commencement of autumn. In common with many other parts of the country, we have experienced, during the months of June and July, a period of unusual drought and a range of extremely high temperature. Its relaxing and debilitating effects produced an extensive prevalence of cholera-morubs and dysentery, and told with fearful and fatal effect upon an infantile population in the production of cholera-infantum. We have, unfortunately, no means of arriving at the vital statistics of our vital population, but feel very confident that at no previous history of our city has the mortality of children been greater than during the present summer.

At this date the character of our diseases has changed, the ordinary autumnal remitting and intermitting fevers being the prevailing type. This is due to great extent to the frequent and heavy rains we have had during the past four or five weeks. Apart from the somewhat extended prevalence of these fevers, our community enjoys its wonted good health.

Is Ovariotomy Justifiable?

[To the Editor of the American Medical Times.]

SIR—The reasons offered by Professor Peaslee, in a recent number of your journal, in regard to the question, "whether ovariotomy ought to be recognized as a legitimate surgical operation," do not, as it seems to me, cover the whole ground. The question is by no

means wholly a *statistical* one, as he seems to take for granted. It is one in which the *heart* and *conscience* are as much, if not more, interested than the head.

We all know that our great master in surgery, Mott, has never performed ovariotomy. Have the advocates for this operation ever inquired why he has not? Does any one suppose he is ignorant of ovarian statistics? Or that Professors Meigs, Mutter, Liston, Duncan, the French Academy of Medicine, as well as nearly all the great surgeons of the age in all countries, are also ignorant on this point, and hence have regarded ovariotomy as unjustifiable? Did statistics show even more favorable results than they do, there is no reason to suppose that they would regard the operation in any different light. Our surgeons do not decline this operation because it is difficult, or requires any particular skill or anatomical knowledge; on the contrary, it is one of the simplest in all surgery. But they are unwilling to be instrumental in shortening human life, when there seems to be no evident necessity of taking such risk; they will not endanger their peace of conscience by undertaking a surgical experiment where a fatal result is as one in three; when, without such experiments, the patient may perhaps live for years in comparative comfort, and possibly recover. They do not think it right to frighten females afflicted with ovarian diseases by predicting a fatal result without an operation, and that at no distant period; and then try to quiet their own consciences by leaving it *entirely* to said females to decide for themselves whether they will submit to an operation or not. I have never had the hardihood to perform ovariotomy; and I shall always have a higher opinion of the late Professor —, who, after opening the abdomen of a female afflicted with an ovarian tumor, immediately closed it without an attempt to finish the operation, previously saying to those present that if there was any surgeon in the room who would like to finish the operation, he would be glad to consent to his doing so. This female lived fifteen years after in the enjoyment of very comfortable health. But the professor never made another attempt at the same operation, and always condemned it in his lectures.

I may further urge in my own behalf, as well as that of my surgical brethren generally:—1st. That the diagnosis in a majority of cases of ovarian diseases is very obscure, and that the prognosis is to the same extent doubtful, if not unfavorable. 2d. That many

females carry these tumors through a long life with comparatively little inconvenience ; that in many cases they actually diminish in size, while the inconveniences attending them often nearly disappear. 3d. That the most favorable statistics show that nothing is gained *on the whole* as regards the prolongation of life by the operation ; for it is found that, taking an equal number of females affected with ovarian tumors of equal ages and under as nearly as possible similar circumstances, *the average duration of life will be greater in those on whom the operation has not been performed than in those who have submitted to it.* So that statistics, in fact, condemn the operation as unjustifiable. 4th. In all the other great operations the surgeon has no misgivings ; he is laid, as it were, under *duress*, as Professor Meigs would say, to operate if circumstances required, and he has no severe qualms of conscience should the case prove afterwards fatal. 5th. Far otherwise, however, must it be with every properly constituted mind when a fatal result attends an operation as wholly unjustifiable by the highest authorities in surgery, and by nine-tenths of the profession generally. 6th. From what has been offered, it may safely and justly be inferred, that our principal surgeons do not envy the professional reputation acquired by the operation in question ; they do themselves honor by showing that they have studied ethics in a wiser school, and that they prefer peace of mind and a good conscience to transient notoriety and pecuniary rewards.

P.

Remarks on the Social and Sanitary Condition of the Onondaga Indians. By JONATHAN KNEELAND, M.D., of South Onondaga, N. Y.

The Onondaga tribe of Indians occupies a reservation lying on the Onondaga Creek and on a high ridge adjacent. This tract, secured to them by treaty with both the National and State Governments, contains about 5,000 acres of good land. The valley, in which they nearly all reside, runs north and south, is about 800 feet above tide-water, eight to twelve miles south from the city of Syracuse, and the soil is in the green shale and slate formation which underlie the Onondaga lime-group of rocks. Their reservation extends east, embracing a hill which rises some 1,700 feet above tide-water, and reaches from the Onondaga water lime-

group, and grey and blue Onondaga limestones which form its base, to the Tully limestone (of the State survey) which crowns its summit, embracing the entire formation called the Hamilton slates, which lie between the Onondaga and Tully limestones. This locality has been the home of the Onondagas since the earliest records, and tradition makes it the centre or rallying point for Indian councils ever since the Aboriginal Confederation, known as the Iroquois or Six Nations, was formed some four hundred years ago.

This tribe, which, in the time of the American revolution, could raise and must have numbered 3,000 or 4,000 warriors in all, is now reduced to about 300 souls. The Chiefs, who seem reluctant to acknowledge their decadence, say, "Some Onondagas gone to live with the Mohawks in Canada; many more are with western Indians at Green Bay and farther west; and some gone to your big war;* come back no more."

All these allowances being made, there are not as many hundred Onondagas on the face of the earth now as there were thousands ninety years ago. I propose to glance briefly at the physical and pathological causes of their decline, and, it may as well be said, OF THEIR FINAL EXTINCTION.†

* About twenty-five Indians of this tribe have been induced by bounties, whisky, and martial music, of all of which they are very fond, to enlist in some one of the many regiments of volunteers raised since the outbreak of the great rebellion, in Onondaga, Cayuga, Madison, and Oneida counties; and twice has the council of Assembled Chiefs deputed their best diplomatists to visit Washington; and, by their personal importunity with the President and Secretary of War, these Indian soldiers have been released and returned home to their tribe, again to enlist, take larger bounties, and be again discharged by the power of Indian palaver with our good-natured (to Indians) Chief Magistrate; but one has been killed in battle, and none have died of wounds or disease to my knowledge.

† The inordinate use of tobacco, it being given to children as we give candy or sugar to quiet them and to hire older ones to do unpleasant duties, together with the general prevalence of the use of intoxicating beverages, are among the causes of physical degeneration; and their gross and irregular habits of eating, varying from surfeit to starvation, operate to render the proper nursing and care of their sick and feeble ones, if they do not really lower the powers of vital existence among the well. Within two years five deaths have occurred in the tribe by lying out cold nights when drunk; three of the five, strong young men, found frozen in the morning; the other two men died in a day or two after lying out drunk.

It is said small-pox was unknown among them previous to the settlement of this country by the whites ; and it is gravely asserted by one of the Puritan chroniclers of the early settlement of New England, "that an epidemic of small-pox broke out, and spread throughout all the tribes on the Atlantic coast, and far inland, just prior to the landing of the Mayflower." He says further, "This seems to have been sent by God to thin out these barbarians and weaken them to make way for us." He admits, however, that the disease, before unknown, was communicated by a ship's crew which landed on the New England coast to trade with the natives three or four years prior to the first settlement of Plymouth. This disease has, within thirty years, prevailed among the Onondagas at three different periods, and caused many deaths. Vaccination has not been introduced, except to a small extent, and that within the last six years ; they are the most difficult people on earth to be led into measures of a prophylactic nature, and never can be induced to have their children vaccinated except when imperilled by exposure or contiguous prevalence of small-pox. It has been said that small-pox has decimated this tribe within thirty years, and if we count those who have died with the immediate attack or remote consequences, I believe it. Syphilis assumes worse forms here than among the whites of our inland towns and cities, and deaths occur every year from some of the protean forms of this malady. Its ravages as a congenital disease are great among the Indian children. Abortion is seldom purposely caused by medication or instruments among the squaws, who all desire to be mothers *early*, mothers *often*, and mothers *LATE* ; which may be, in part, from mercenary motives, as each child draws an annuity of five dollars cash, and blankets worth as much more, from the National Government at Washington. The pride of maternity and the fondness for children and pets, is intensely strong among them ; the ratio of those who die in infancy is, however, very large ; many fall victims during the first year of life to syphilitic anaemia, attended in some cases with secondary eruptions and ulceration. Scrofulous diseases are very common among the children and youth, and oftenest seen in the glandular system, and next in affections of the bones and joints. The percentage of deaths from pulmonary tuberculosis is very large. During the ten years of my acquaintance with the tribe, many young men and young women, from the ages of fifteen to twenty, have died of consumption within a few

months after marrying, which they are sure to do, in fact or in form, as soon as the development of the procreative organs will warrant.

A fact growing out of these early marriages, or conceptions from commerce of immature parents, is, that the children of these young parents are seldom reared, but die of scrofulous or syphilitic maladies developed during the teething months; or, if they are carried through childhood, many of them are scarred, semi-idiotic, or crippled by these diseases, and will doubtless fall victims to their subsequent development at about the season of puberty or when growth ceases. The degeneration and inherited feebleness of constitution which have finally caused the native inhabitants of the Island of Malta and other secluded islands, and of certain mountain valleys in Europe, to run out, or, with but few exceptions, to only propagate dwarfs, cretins, and imbeciles, are in full operation in this tribe. Marrying in and in, or incestuous commerce, immaturity of parents, and the fact that scrofulous and syphilitic parents transmit to their offspring these diseases or their enfeebling consequences, are working out here the same results as elsewhere. The great laws of population are as imperative among the tribes of men as among the inferior animals, where we see weakly and infirm parents are forced to give place to the strong and healthy; and where whole species of families become unable to protect themselves from the war of the elements, or the encroachment of more vigorous and self-asserting families of the same species, they give place, and vigor triumphs over decay. It might seem exceptional in the case of Indians to the general law that "procreation between near relatives tends to impair and destroy the race," that the half-breeds, one of whose parents is part or all white, are generally short-lived, do not seem to be saved from decline by the infusion of white blood. Whatever may be the reason of this (perhaps depravity of taste is generally associated with syphilitic or other taint in the white parent), it is notorious that the children of both Indian parents, one of whom is from a distant tribe of Indians, are the most healthy, while half-breed white children and full-bred Onondagas are alike infirm or prone to yield to attacks of disease.

The state of medical knowledge among these Indians is briefly told:—They have but little knowledge of either remedies or diseases, and it is a marvel that any person should ever have sought to add to his popularity or that of his especial cure-all, by calling

himself an Indian doctor, or his panacea an Indian remedy. *Podo-*
phyllum peltatum, *macrotys racemosa*, *hamamælis virginica*, *apo-*
cynum cannabinum, and *spigelia marylandica* are the chief remedies
in use among them from the vegetable kingdom. Add to these a
few showy, rare, inert plants, with Epsom salts and castor oil, and
you have their stock of *materia medica*; and more than half of
these remedies, probably all of them, have been taught them by
their white neighbors.* They have a chief who glories also in
the title of Indian doctor, and who circulates among some of the
more ignorant whites in this and one or two adjacent counties, a few
roots, leaves, and barks, given in decoction in large quantities of
warm water, or infused in rum or whisky; and boasts and pre-
tensions, indicating his near relationship to Longfellow's "Jagoo
the boaster," constitutes his stock in practice. There are a few
squaw doctors, who practice in substantially the same methods in
the tribe, but none of them practice surgery, or even extract teeth
or adjust broken bones or dislocations.

The absence of skill in surgery and midwifery among these
Indian doctors is so well known in the tribe, that they have form-
erly, in bad cases, depended on nature, with what aid they might
be able to obtain gratuitously from neighboring white physicians.
About seven years ago, through the agency of some neighboring
physicians and other benevolent persons who witnessed their des-
titution of medical skill or the means to secure it,† the Legislature

* There is among the Senecas an educated Indian Doctor named Wilson, who graduated at Geneva Medical College many years ago; he occasionally visits this tribe, and is a man of some talent and skill, but his usefulness among the Indians is limited, owing to his habits. Schools and Protestant Missions have only been established among the Onondagas some eighteen or twenty years; they are therefore less intelligent than the Oneidas, Senecas, and Tuscaroras, who have enjoyed these means of improvement much longer. It is also said by agents, teachers, and missionaries, that the Onondagas are duller scholars and more generally indolent and depraved than any of the above-named tribes.

† The Indians being by treaty a nation by themselves, could not be pauperized—so said lawyers and auditing town and county boards; were not suable at common law; their property could not be levied on by execution; and they never had either money or other means ahead; consequently no debts were paid by them; their fertile lands were rented to whites, paid for in advance, and the money soon spent for gewgaws, travel, whisky, and short-lived luxuries; they then live for months by a system of beg-

was petitioned, and a law was passed in 1858 giving them a physician's services in urgent need—his salary not to exceed \$300 annually, paid by the State. Since the passage of this statute I have been called three times to use the forceps in cases of midwifery, and have seen much of their bad surgery, or rather no surgery. I have never seen a one-legged or one-armed Indian among them; for many years no amputation has been performed on an Indian of this tribe. The reason given by their head chief, a most intelligent man, Harry Webster, was, "that Indians always die when you cut off their legs or arms," and indeed it seems well established that they have generally sunk after any grave operation. The trophies of conservative surgery, with the surgery left out, are numerous in the tribe in the shape of distorted and deformed limbs; legs and arms are seen ankylosed at almost every conceivable angle. Some of these might have been saved from deformity by judicious mechanical appliances, instead of which they apply hot fomentations of macerated barks and pounded roots, never having learned to combat inflammation of the joints by cooling applications or leeches, or to obviate the distortions and contractions which follow these inflammations by mechanical means.

One case of midwifery, in which resort to the forceps became necessary, amused me, and may serve to illustrate the stoicism and queer humor of this most grave-looking race:—The squaw had been in labor with her first child over thirty hours; all the obstetric skill of the tribe had been in attendance upon her more than twenty hours. She seemed much fatigued. When I was called, I however soon succeeded in removing the impacted foetus with the forceps. After separating the child, which proved to be alive, and removing the placenta, I left the woman on some husks and quilts on the ground, in the centre of the cabin, while I washed my hands in the snow at the door; on returning to see whether my patient rallied well, I found the bed (such as it was, where she

gary, until they can again rent their lands or send out squaws with baskets, bead-work, and begging papers. The doctors contiguous to the tribe had attended them almost wholly without compensation for many years, until they, in 1858, secured \$300 annually from the general fund, the Legislature justly regarding the care of the needy and indigent sick Indians as properly a duty owing by the State as the pay of teachers and support of Indian schools.

was left lying to rest, while I stepped to the door) was gone, and all the squaws, with the husband of the parturient woman, seated on a board or bench at the side furthest from the door, the squaws with the woolen blankets which they always wear drawn over their heads, all sitting in a row, and looking as much alike as the beans in a pod. My patient, one of the five, I could not at first recognize. Seeing my surprise, they all laughed heartily, when I knew my youngest mother by her teeth being younger and her laugh a shade quieter than that of her nurse and midwife attendants.

They said to me, "White woman no have baby to-night, and go to meeting to-morrow like Indian woman."

I acknowledged the truth of this, and believed the squaw mentioned in Irving's "Astoria" might really have given birth to a child in the afternoon, strapped the youngster to a board and mounted her pony, and traveled on with the moving cavalcade of Indians* the next morning. They are the most utterly free from nervousness, hypochondria, and hysteria, of any people known to me. Anæsthetics would be of but little use for them, as they seldom give utterance to cries of pain—a sort of guttural sound or smothered groan being the only indication of the presence of severe parturient throes. I have, however, seen three cases of cataleptic unconsciousness in mothers, caused by grief on the loss of promising children. In one of these the mother had lost her

* The Onondagas retain the custom which was prevalent among the Indians at the first settlement of this country by the whites, of binding the papoose to a board, fashioned often with cunning workmanship, and over the upper end of which projects a strong bow to keep the blanket from the face, and also to serve as a handle to lift it to and from their shoulders when they travel; it was also used, as we learn by the old couplet, "Rockaby baby on the tree top," etc., to suspend the child by to a limb or sapling bent down, which would give it a motion decidedly soothing when swayed by the wind. This way of rocking the baby is now sometimes used by Indian mothers here while they hoe or plant in warm weather. This binding the child firmly by cloths, its back to a board, must influence the form of the spine, and may serve to account for a straightness almost abnormal; hence the saying, "Straight as an Indian;" and does it not also secure the shape of the neck of the femur, which makes all Indians point their toes straight forward, as much in as the heels, when they walk? Or is this direction of the foot in progression wholly inherited from parents of like formation and motion?

husband and two children of cerebro-spinal meningitis, within a few days, the last dying while they were after me, they having before had no doctor but their own; the mother had begged for a "white doctor," and on the child's dying before my arrival, "she fainted." I found her rigid and unconscious; her jaws set; pulse feeble and about 60 per minute; she did not recover so as to swallow in many hours; and died of dropsy, supervening upon pericarditis, in a few months after the death of her children.

All epidemics of scarlatina, small-pox, measles, brain fever, or cerebro-spinal meningitis, are more fatal with them than with any race of whites in this region of country. This may be in part due to the physical degeneration of the tribe, and in part to the want of proper nursing, food, and care when sick. It is probable that being able, as they now are, to secure the aid of a physician when an epidemic comes among them, they may by degrees place confidence in "white doctors," and heed directions as to food and nursing, to which they now pay little regard, and that their final extinction may be delayed by the same agencies which have increased the average duration of human life among civilized nations, viz., knowledge of, and obedience to, the laws of life. Industry, economy of means and time, and reliance upon their own labors and their fertile acres for their support, should be taught them instead of having their teachers, preachers, books, stationery, and blankets hired and bought by the State, the Church, and the General Government; but ere these radical changes in their nature and habits are effected, the Onondagas will have passed away.

South Onondaga, May 31, 1864.

[*Amer. Med. Times.*

Resection of one inch of an imperfectly united Tendo-Achillis, and successful treatment by Sutures. By WARREN WEBSTER,
M.D., Asst.-Surgeon U.S.A., in charge of De Camp General Hospital, David's Island, N. Y. Harbor.

We are told that when a tendon is divided in an open wound, reunion of the two ends rarely takes place, in consequence of the violence of the resulting inflammation preventing adhesive action. Whether the failures of most of the earlier operations of tenotomy depended upon this cause, or were mainly due to the neglect of the surgeon to maintain the divided extremities in apposition during

treatment, the following report of a case may assist to determine. It will be seen that free exposure of the divided ends of the tendon to suppuration, was not in the present instance incompatible with a successful cure. The employment of sutures, to assist the relaxed muscles in maintaining the divided extremities of the tendon in contact during the cure, is also a feature of interest in the case.

Paul, a half-breed, applied to me, while post-surgeon at Fort Larned, Kansas, in November, 1860, for the treatment of an injury which he had received about three months previously while engaged in running a foot-race. His statement was that he felt something, at the time of the injury, suddenly give way in his right leg, with an audible snap, the part being instantly deprived of its functions. He said that a well marked interval or hollow was perceptible above the heel, and in attempting to step upon the foot after the injury, he immediately fell to the ground. No attempts were made to bring the divided ends into proximity with each other, by relaxation of the affected structures, and but little attention had been paid to the subsequent quietude of the limb. At the time of my examination there was an intervening gap between the divided ends, of about an inch in length, where but little plastic matter seemed to have been poured out to fill up the space. The uniting bond was so elongated and weak as to render the limb powerless in progression. I resolved to expose the parts by a free incision, remove the slight connecting medium, pare the retracted extremities, and endeavor to unite them by the introduction of sutures of silk. The operation of bringing the severed ends in contact after the removal of the intervening substance was attended with considerable difficulty. This, however, was accomplished by placing the limb in a thoroughly relaxed position, and inserting two strong ligatures through the ends of the tendon about three lines from the extremities. The parts were thus approximated, and the relaxed position of the limb was maintained by an apparatus consisting of a ring of leather placed around the thigh, above the knee, from which a cord was attached to a loop in the back of a slipper. The gastrocnemii muscles were also surrounded by a firm bandage. The apparatus was used for six weeks, when the patient was allowed to walk about, wearing a high-heeled shoe, for three weeks longer.

After having tied the ligatures, one end of each was cut off and the others withdrawn, as practised in the ligation of vessels. The

incision was then united its entire length (which was about three inches) in the most exact manner possible. The ligatures were removed on the twenty-fifth day, and during the greater part of that time the wound discharged purulent matter. The fourteenth week after the operation the patient walked with scarcely any lameness, and the tendo-achillis appeared to be perfectly united.

—*Amer. Med. Times.*

On Iodine as a Deodorizer and Disinfectant. By Dr. B. W. RICHARDSON, M.A., London.

The following is from a report of papers read at the late meeting of the British Association at Newcastle :—

Dr. Richardson made a short observation in sub-Section D on Thursday, August 27, "On the application of Iodine for Disinfecting and Deodorizing Purposes." The iodine should be placed in a common chip-box, such as is employed by pharmacists, the lid of the box being replaced by a covering of "leno," or the iodine may be placed in the ornamental vases on the mantle-shelf of a room. The smell of iodine could thus be communicated to the air of an apartment, and air so purified was not only fresh and agreeable to the sense of smell, but any organic matters in it were destroyed. In extreme cases the iodine should be placed on a dish or plate, and the heat of a candle being applied beneath, the iodine was volatilized, and a room was quickly purified. Dr. Richardson said that in cases of small-pox a knowledge of the facts he had named was most valuable. In rooms occupied by sufferers from this painful disease, organic matters floated largely in the air, rendering the air most offensive. He (Dr. Richardson) had succeeded, in all cases, in rendering such air inodorous by the volatilization of iodine. He had also observed the singular fact, that when the air was greatly charged with organic materials, the smell of the iodine was for a long time imperceptible, so that in truth the iodine method of purification was also a ready and practical test of the purity of the air. Dr. Richardson thought the iodine plan was quite as effective as the liberation of free ozone—it was, indeed, in principle the same, and was so simple that every person could employ it.

Dr. Wood said that the iodine produced the effects named by Dr. Richardson in one of two ways—it either destroyed the organic

compounds by combining with hydrogen, and forming hydroiodic acid, or it might be that in the chemical changes which occurred ozone was. In either case there was unquestionably a more rapid and effective process of oxydation, the results being the same as occurred with chlorine to a considerable extent, and in a manner more easy and manageable.—*Medical Times and Gazette.*

Fermentation and Ferments.—M. Lemaire denies that a special ferment for every kind of fermentation exists. He finds the same microscopic beings present whether sugar is being changed into alcohol, or alcohol into acetic acid. But in the case of *neutral* animal and vegetable matters he has assured himself that microzoa begin the decomposition, which, when the matters become acid is carried on by microphytes. By means of a little acid, these latter may be made to appear at will, and the author consequently argues that mycoderms do not make the acid, but appear in consequence of its presence. The acidity of the perspiration, it is thought, may cause the development of microphytes which are observed in some obstinate cutaneous effections.—*Ibid.*

Antidotes for Strychnia.—Professor R. Bellini, after conducting a long series of experiments on poisoning by strychnia and its salts, arrives at the opinion that the best antidotes are tannic acid and tannin, chlorine, and the tinctures of iodine and bromine. Chlorine, he maintains, attacks the strychnia even when it is diffused through the system, for he found that in rabbits poisoned with the sulphate of the alkaloid, on being made to inhale chlorine gas in quantity, such as was not sufficient in itself to kill, the convulsions were retarded, and were milder when they occurred; death also was less rapid. The author further observed that when strychnia was exhibited with pyrogallic acid, the convulsion was retarded for the space of half an hour, by comparison with other experiments in which the alkaloid was given by itself. Professor Bellini believes that this arrest in symptoms is not dependent on the acid acting chemically on the strychnia, but only through the astringent effects produced by the acid upon the mucous membrane of the stomach, whereby the absorption of the poison is rendered

difficult. The same author, dwelling on the frog-test for strychnia, asserts that this test is not to be trusted, inasmuch as other poisons produce the tetanic symptoms, although in a lesser degree. He adds, in speaking of the effects of the antidotes to which reference has been made, that he trusts his results will have a bearing not only on the treatment of strychnine tetanus, but on traumatic and idiopathic tetanic disease.—*British Medical Journal.*

Bromides in the Water of the Dead Sea.—Some recent analysis of the water of the Dead Sea, taken from near the embouchure of the Jordan, laid by M. Roux before the Academy of Sciences, show the extraordinary quantity of 206 grammes of salts per litre (3,090 grains in $1\frac{3}{4}$ pint imperial.) No mineral water is so loaded with saline matter or contains so much bromine. It is probable, says M. Roux, that the enormous proportion of bromide of magnesium which it contains may impart to it some special therapeutical properties. A cubic metre of this water contains more than three kilogrammes of the bromide, and it would be of great interest to try its effects in scrofulous cachexia, inveterate syphilis, rickets, diseases of the bones, chronic affections of the respiratory organs, etc.—*Medical Times and Gazette.*

External Use of the Biniodide of Mercury in Chronic Glandular and other Tumors.—Dr. M. T. Sadler calls attention (*Med. T. & Gaz.*, April 23, 1864) to this remedy, and says that he has used it, for the last eighteen months, in a great number of cases with the greatest benefit. He says he has almost invariably used it without the exhibition of any other medicine, so that whatever benefit was produced must have been due to it alone. He generally ordered it as an ointment, containing sixty grains in an ounce of simple ointment; but believes that half that strength is better for persons with delicate skins, as it sometimes causes a sensation of burning pain when used too freely. It should not be allowed to blister the skin, and when redness is produced it seems best to omit the rubbing for a night or two. It seems most useful in strumous swellings of the glands, but it is also of use in gouty swellings. The only ill effect that he has seen is the burning pain sometimes caused, and that inconvenience may apparently

be avoided by using a weaker ointment.—*Amer. Jour. of the Medical Sciences.*

Sympathetic Ophthalmia successfully treated by Iridectomy.—M. Tavignot has been led to resort to iridectomy for the cure of sympathetic ophthalmia, and he claims (*Revue de Thérapeutique*, March 15, 1864) to have successfully treated one case by this operation. The subject of it was a girl, 11 years of age, who had lost her right eye in consequence of puncture with scissors, and in whom sympathetic iritis became developed in the left eye five weeks after the accident. M. T. excised about a third of the iris at the external portion from the pupil to the external circumference of the iris. The cure, he states, was as complete as possible.—*Ibid.*

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PRELIMINARY TERM.

The preliminary term will commence on Wednesday, Sept. 14, 1864, and continue to the beginning of the regular term, viz., for four weeks.

Instruction during this term will consist of didactic courses on special subjects of interest and practical importance, together with daily clinical lectures. The college lectures during this term are given exclusively by members of the Faculty. Attendance during this term is not required, but students are earnestly solicited to attend; it being designed to make this term not merely a nominal, but an actual extension of the period of instruction.

REGULAR TERM.

The regular term will commence on Wednesday, Oct. 12, 1864, and end early in March, 1865.

During the whole of the session the student will have an opportunity of attending at least two clinical hospital lectures daily. In addition to these, four didactic lectures are given on every week day except Saturday, in the college building within the hospital grounds. The didactic lectures are so arranged as not to interfere with hospital attendance. Ample time is allowed for accompanying the visiting Physicians, Surgeons, and Obstetricians of the hospital, attending clinical lectures, witnessing Surgical and Obstetrical operations, autopsies, etc., without compromising any of the courses of didactic instruction, the latter being as complete in this Institution as in Colleges not connected with hospitals. Clinical and demonstrative teaching constituting the great feature of this College, the arrangements are such as to render the immense resources of the hospitals available to the fullest extent.

All the lectures in this College are given either in the hospital or in the College building within the hospital grounds.

OHIO

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Original Communications.

SURGEON-GENERAL'S OFFICE,
Columbus, O., Oct. 22d, 1864.

Prof. John Dawson, M.D., Editor of Med. and Surg. Jour.:

DEAR DOCTOR,—I herewith send you two reports from among many received at this office. Believing them to be of interest to the profession, I send them to you for publication.

Very respectfully,

R. N. BARR,

Surg.-Genl. of Ohio.

Report of the Surgeon of the 16th Regiment O. V. I.

CAMP CHASE, Oct. 15, 1864.

R. N. Barr, Surgeon-General State of Ohio:

SIR,—I have the honor to report the arrival of the Sixteenth Ohio Infantry Volunteers at this place, for muster out upon expiration of term of service.

This regiment was organized at Wooster, in October, 1861. At the time of leaving the State it numbered 37 officers and 891 enlisted men. It was afterwards reinforced at different periods by the addition of 4 officers and 259 recruits, thus making an aggregate of 1,191 officers and men.

The regiment has served in Virginia, Kentucky, Tennessee, Mississippi, Arkansas, Louisiana and Texas. It was engaged in the eventful campaign against Vicksburg, from the battle of Chickasaw Bayou, in December, 1862, to the surrender of the large rebel garrison to Major-General Grant, on the 4th of July, 1863. With Gen. Sherman, it was in the expedition that immediately followed against Jackson. Under Gen. Banks, it assisted in his second advance into the Téche country, the "Eden of Louisiana;" formed a part of the expedition that occupied the coast of Texas; and participated in the unfortunate Red River campaign in western Louisiana.

We have traveled by railroad 1,285 miles, by steamboat 3,916 miles, by steamship 1,200 miles, and on foot 1,621 miles. No accident occurred to any one while traveling on the water or by cars. While on the Gulf of Mexico, in November last, off the coast of Texas, in latitude 27°, several men had their feet frozen during the prevalence of a severe *norther*.

The total number of deaths from all causes, as far as ascertained, is 251. There were killed in battle and died of their wounds, 2 officers and 60 men. There was one death from suicide, and one from accidental shooting. Two men were drowned—one while bathing in the Mississippi, at Vicksburg, the other while returning from general hospital, at New Orleans, to rejoin the regiment at Morganza.

There were 185 deaths from disease, of which 47 occurred with the regiment. The others were in general hospitals, on hospital or other transports, at home on furlough, or in rebel prisons.

The number of wounded who recovered was 188.

The largest per cent. of sickness at any one time, occurred while the regiment was in barracks at Camp Dennison, in December, 1861. The most fatal disease was typho-malarial or camp fever. The most prevalent disease was diarrhoea. There were 2 cases of small-pox and 5 of varioloid, and no deaths. Of

measles there were 52 cases and 2 deaths. There were 3 cases of typhoid pneumonia, all of which proved fatal. Two died from diphtheria.

The greatest mortality in any one month was in April, 1862, at Cumberland Ford, Kentucky, when there were 8 deaths, which were as follows: 4 from typhoid-malarial fever, 2 from typhoid pneumonia, 1 from congestive measles, and 1 from hospital gangrene.

On surgeon's certificate of disability, 186 were discharged, and 38 were transferred to the Veteran Reserve Corps—15 of whom were directly from the regiment.

We have had four Assistant Surgeons. The first, Dr. B. S. Chase, resigned, to take the position of Surgeon in one of the first colored regiments that was organized in Mississippi; the next was dismissed the service by order of the President; the third resigned on account of chronic diarrhoea contracted during a brief service in western Louisiana; and the fourth, who joined the regiment in August last, is now at officers' hospital, in Natchez, Miss., dangerously ill of typhoid fever.

While acknowledging their prudent counsels, it gives me the highest pleasure to record the cheerful, ready, and constant acquiescence and vigilant coöperation of the respective commanding officers of the Sixteenth Regiment in faithfully carrying out in all practicable situations, the suggestions and recommendations of the medical officers on the important subjects of hygiene and sanitary police.

The number of officers and men to be now mustered out is 477.

I have the honor to be

Your most obedient servant,

B. B. BRASHEAR,

Surgeon 16th Regt. O. V. I.

List of Casualties in the 76th Regiment of Ohio Volunteer Infantry, from May 1st to September 8th, 1864.

	Name.	Rank.	Action.	Date.	Nature of Wound.
1	Norman H. Stiffa	1st Lt.....	K. Near Atlanta.....	July 22	Killed.
1	John Patton.....	Corporal.....	H Resaca, Ga.....	May 14	"
2	Michael Griffin.....	Private.....	E. do	do 15	"
3	George Kumpf.....	do	G. Dallas, Ga.....	do 28	"
4	Thomas Young	do	do	do ..	"
5	Cyrus Crane.....	do	do	do ..	"
6	William Willey.....	do	A. Kenesaw Mt., Ga.....	June 17	"
7	Silas A. Drake.....	do	" do	do 16	"
8	William Rhiel.....	Corporal.....	K. do	do 24	"
9	William Little.....	Private.....	A. do	do 28	"
10	Jacob Schach.....	do	E. Near Atlanta.....	July 22	"
11	Joseph Bergold.....	Corporal.....	I. do	do ..	"
12	Nathan Atwood	Private.....	A. do	Aug. 10	"
13	George F. Mast	do	F. do	do 12	"
14	Thomas Dunn	do	A. Near Jonesboro, Ga.....	do 31	"
15	R. W. Henthorn	Sergeant.....	G. do	do ..	"
16	Sylvester Redmon	Private.....	A. do	Sept. 1	"
1	R. W. Burt.....	Captain.....	H Resaca, Ga.....	May 14	Face and mouth, severe.
2	Freeman Morrison	do	F. do	do ..	Genitals and thigh, very severe.
3	Miles Arnold	1st Lt.....	C. Near Atlanta, Ga	July 22	Left lung, right side, and right shoulder.
4	R. B. Williamson	2d Lt.....	A. Kenesaw Mt.....	June 13	Contusion of arm, slight.
1	William Mottice	Private.....	K. Resaca, Ga.....	May 13	Gun shot, fracture of left index finger.
2	Godfrey Myers	Corporal.....	L. do	do ..	Left shoulder, slight.
3	James Kibler	Private.....	C. do	do ..	Left arm, resection of four inches of humerus.
4	Marshall Spencer	do	A. do	do 14	Flesh wound of right thigh.

P. W. Evans.....	G.	do	do	do
John Maloney	B.	do	do	do
O. M. Hatch.....	"	do	do	do
Alcinus Richardson	Corporal	do	do	do
Samuel Eakin	Sergeant	F.	do	do
William Held	Private	"	do	do
William Wilcox..	Sergeant	K.	do	do
Wallace Kinkade.	Private	H.	do	do
Reuben Burchfield	do	"	do	do
Daniel V. Clark	do	I.	do	do
Jacob Leffsen.....	do	"	do	do
John Ilaverstock	do	"	do	do
John Young.....	do	"	do	do
Leonard Cook	do	C.	do	do
Stephen Clayton.	Sergeant	B.	do	do
Solomon Dustman	Private	K.	do	do
Timothy Albaugh	do	H.	do	do
John Harmon....	do	L.	do	do
John S. Grant	Corporal	K.	do	do
Andrew Jones	Private	D.	do	do
Edward Gross	Corporal	"	do	do
Henry Smith	Private	H.	do	do
William J. Prior.	do	"	do	do
John S. Cummings	do	B.	do	do
James Devoll.....	do	D.	do	do
George Carroll...	do	B.	do	do
Burton Donnalue	do	"	do	do
George Spellman.	do	D.	do	do
James Clunk	do	E.	do	do
Samuel B. Wireman.	do	L.	do	do
James McGraw...	Sergeant	H.	do	do
Marvin Buxton	Private	"	do	do
Abraham Burnside	do	C.	do	do
Caton Hill.....	do	"	do	do
Rufus W. Henthorn	1st Sergt	G.	do	do

List of Casualties in the 76th Regiment Ohio Volunteer Infantry—Continued.

	Name.	Rank.	Geo.	Action.	Date.	Nature of Wound.
40	J. W. Johnson.....	Private.....	B.	Chattahoochee River.	July 12	Contused wound of abdomen, severe.
41	William Chicken.....	do	A.	Near Atlanta, Ga.	do 22	Mortal, through abdomen.
42	James M. Anderson.	do	"	do	do ..	Through left arm, severe.
43	William Murray.....	do	"	do	do ..	Scalp, slight.
44	David Mossholder.....	do	"	do	do ..	Through left hand, severe.
45	Frank D. French.....	Sergeant.....	B.	do	do ..	Left hip, severe.
46	Robert Stewart.....	Private.....	"	do	do ..	Contusion of chest.
47	Bradford Ingle.....	do	"	do	do ..	Contusion of left breast.
48	Albert Schby.....	do	C	do	do ..	Slight.
49	Job Benjamin.....	Corporal.....	E	do	do ..	Flesh wound of forehead, slight.
50	Lawrence Schweninger	do	G	do	do ..	Flesh wound of right shoulder, severe.
51	Leander Jennings.....	Private.....	"	do	do ..	Right leg, severe.
52	Thomas Hancock.....	do	I.	do	do ..	Slight.
53	David Bowman.....	do	"	do	do ..	Right shoulder, fracture of head of humerus.
54	William Tramp.....	do	"	do	do ..	Left hip, severe, shell.
55	Carrollton Toman.	do	B.	do	do ..	Slight.
56	William Erwine.....	do	E.	do	do ..	Finger amputated, shot himself.
57	Henry Miller.....	do	F.	Ezra Chapel.....	do ..	Scalp, severe.
58	George W. Brannan	Corporal.....	"	do	do ..	do ..
59	Edward Kerns.....	Private.....	"	do	do ..	do ..
60	Jackson Moore.....	Corporal.....	"	do	do ..	do ..
61	Marcus Mathews.....	Private.....	H.	do	do ..	do ..
62	John Walker.....	Sergeant.....	I.	do	do ..	do ..
73	Josiah Spacers.....	Private.....	D.	Near Atlanta.....	Aug. 14	Left hand, amputated three fingers.
74	Edward Swiney.....	do	"	do	do ..	Face, slight.
75	George Debee.....	do	E.	do	do 12	Through the neck, near carotid and subclavian arteries.
76	Daniel Heckerd.....	do	G.	do	do 16	Flesh wound of left arm.
77	Thomas Chucks.....	do	A	do	do 18	Shoulder, slight.

KILLLED.

Commissioned Officers.....
Enlisted Men.....

W O U N D E D .

Total killed.

Total killed and wounded.

American and Foreign Intelligence.

On Malingering, especially in regard to Simulation of Diseases of the Nervous System. By WM. W. KEEN, M. D., S. WEIR MITCHELL, M. D., and GEO. R. MOREHOUSE, M. D., Acting Assistant Surgeons U. S. A. In charge of the U. S. A. Wards for Injuries and Diseases of the Nervous System, Turner's Lane Hospital, Phila.

In the old regular army, malingering was better understood by the men, and relatively, perhaps, more often practised than it is in our present army, although we suspect that this is less and less true in each succeeding year of drafts and of warfare. The older soldiers are fast learning deceit, and, if we be not mistaken, the attempts to malinger are now much more frequent, and far more clever, than they were two years ago. As yet, however, such cases as mentioned by Mr. Guthrie, of a soldier's swallowing a cork full of pins to produce haemoptysis, of which he died, the carotid having been wounded; or, as has been often seen in the British service, of artificial ophthalmia, produced by the use of corrosive sublimate to such an extent that the leeches afterwards used were poisoned, and died, or, as the matchless ingenuity of the French conscripts has devised, of imitating polypus of the nose, by introducing the testes of cocks and the kidneys of hares, would be unlikely to occur in our service. Indeed, our soldiers rarely produce diseases or aggravate them; but one case of purposely irritated ulcer has been seen by us, and but very few more have come to our knowledge. The great majority of malingerers consists rather of men who exaggerate real maladies of trifling character, or who feign disease outright. Of the two classes, the first is the larger. The real depletion of our ranks is not so much by feigned epilepsies, paralysis, and the like—we speak now of our own experience—as by these cases of disease, once severe, or always slight, to which men add invented symptoms, or continue to assert the existence of those which have passed away. The stimulous of large bounties has increased the number of these deceivers. Many have concealed symptoms to enter the service, and, when enlisted, have exposed them anew, with every exaggeration of statement, in order that they might be discharged, so as again to re-enter with a second bounty. Others, among substitutes especially, have been content if they could hoodwink the doctors far enough to secure for themselves the ease of hospital wards, and security from picket duty, and the bivouac.

Certain questions of an ethical nature present themselves in many cases of malingering. Thus, for instance, let us suppose the case of a man, as to whom all our means of information have been used. We still feel pretty confident that he is malingering; we can not in any way become sure. He has no obvious disease. What is the surgeon's duty here? We, ourselves, return such cases to duty, giving the government, rather than the man himself, the benefit of the doubt. If he be really a well man, no harm is thus done. If he be suffering from diseases which we have failed to detect, he is pretty sure to find his way into a hospital again.

It may be objected that great injury may thus be done the unfortunate victims. But, in the first place, these cases are almost invariably chronic, and, therefore, even if genuine, could scarcely be irreparably injured by a simple journey, and an attempt at duty. And, in the second, as Hennen observes, "it is rarely that diseases of this description exist any length of time without obviously injuring the patient's general health, or his external appearance." Hence, in such dubious cases, the amount of disease actually existing must be ordinarily very minute, or the question could scarcely arise, "Is there any disease?" These remarks are based, however, on the supposition that the surgeon has faithfully used all the means of diagnosis at his command; that his physical exploration has been a careful one; that his inspection and examination have not been limited to the face, coat, pants and pulse, but have been minute and bodily, especially so of the region implicated; that the history and symptoms have been accurately noted; that chemistry and the microscope have divulged nothing wrong in the urine, &c.; that the special tests by ether, by galvanism, by the ophthalmoscope, the ear speculum, &c., have all been employed in vain; above all, that the doctor's eyes, ears and brains have been active and observant. In the *Cyclop. of Prac. Med.*, ii. 150, are given two sad cases as cautions. In one the patient complained of pain only, and finally died. His discharge was for many years refused him by Fodere, on the ground of the unreality of his disease; in the other, an English naval surgeon compelled a suspected malingerer, even by flogging, to lift and swing an eighteen pound weight with his arm, despite the most earnest entreaties and asseverations of agonizing pain in the shoulder, from which, soon after, he evacuated two pounds of purulent matter. Had the authors of this cruelty carefully adhered to our rules, it seems impossible that they could have been so grossly mistaken, for it is incredible that life should be lost, or a part so deeply involved, without constitutional or local troubles of such a nature that *some* disease, if not the *exact* disease, must have been recognized as existing. The authors who quote these cases mention the latter, at least, as an instance "in which ignorance was as conspicuous as barbarity."

But what is to be done with cases of undoubted and obstinate malingerers; with men whose endurance and tenacity of purpose

would be heroic, were the object in view a righteous one? Experienced army surgeons tell us that it is better, on the whole, to discharge such men, and under the old army rule this would, no doubt, be the best plan, for such men are, as a rule, useless as soldiers, and a dishonorable discharge brands the criminal with shame and saves the government from expense. But, under present circumstances, the man would merely change his residence, and re-enlist with a new bounty, to repeat again the same easy means of creating an income. If, on the other hand, we return such men to duty ruthlessly, they only escape from one surgeon to find another more easy and more credulous, while in most cases they get a ready discharge at the convalescent camps, and return home to repeat the same thieving and lying process.

To court-martial these men is difficult, since in many a case in which it is morally certain that the man is a malingerer, it is yet impossible to swear to it, and even when it can be sworn to, it is often difficult to advance such evidence as will convince a court of non-professional men. When it is possible to do so, charges should by all means be preferred, and proper punishment secured; but, unfortunately, this measure is usually avoided, even in the most palpable cases, whether from listlessness or ignorance, it is impossible to say. But in cases which from any cause cannot be brought to trial, two courses lie open to us. First, to return the malingerer to duty, with a note upon his descriptive list stating the fact of his malingerer. This is fully justified both by the ordinary practice of commanding officers, and by private but official authorization to ourselves. Such a note would always follow up a malingerer, and almost inevitably prevent the attainment of his darling object, by branding him to every officer under whose control he comes. It has succeeded admirably in the cases in which of late we have adopted it. Second, to retain him in the hospital or regiment, and compel him constantly to do the hardest and filthiest duty on police. If it could be authorized in a hospital or military district, to form a "malingerer's brigade," with a peculiar dress, doing just such work as we have mentioned, until they were willing to return to duty as honest men, the disgrace and hard work incident to such a position, it is believed, would be of the greatest advantage, and would rid the service of much of the malingerer now existing. Men malinger in order to avoid work and obtain a discharge, and so long as one man succeeds in doing either, so long will ten others continue to imitate him. But if, thereby, they should only subject themselves to harder work than ever, add dishonor to hard labor, and lose all hope of a discharge, malingerers would be rarely seen. But surgeons should be careful about entering such remark on a descriptive list, or in entailing disgrace upon men by accusing them of feigning, and punishing them for it. Every means should be adopted to ascertain *positively* the reality of the deception. It is unfortunately the fact, that one rogue throws a shadow of suspicion on a dozen honest men.

Our dexterity in detecting deception must not become so acute that in every "back case" we shall see a malingerer. We remember one man under our own care, with whom we adopted the severest measures, even to the actual cautery, in the belief of his malingering, and who, in undergoing a subsequent physical examination for a promotion, where he would appear to the best advantage, failed to pass on account of the very defect which we had believed simulated. Such cases have made us wary, and we name them as warnings to others, lest in endeavoring to do justice to the government, we be led unwittingly, to do injustice to the men.

Malingering is more especially rife in general hospitals, and it is easy to see why. Men are there separated from the medical officers who knew all about them when they entered the service, who have been with them during all their campaigns, and are familiar with their general every-day character. Their company commanders are, to a great extent, inaccessible, and many an apocryphal fall or fever, and many an imaginary shell or shot wound, which inflicts the saddest injuries on the hapless sufferers, or perils their health and the lives, would vanish could they be confronted with their captains.

Here, too, it is proper to notice a class of men who escape duty by stating that their disability existed before they entered the service. They often very coolly allege that the surgeon was not sharp enough to catch them, and so they got the bounty and the government a bad soldier. Usually a losing bargain for the government. Even if, in such cases, the disease really existed, unless the disability be complete, they should unflinchingly be made to do duty either in hospital, the Veteran Reserve Corps, or else in the field. They voluntarily enlisted, and as the government has performed its part of the agreement in giving them bounty, clothing, pay and rations, let them be made to perform their part, to do duty despite the disease. While writing this, we have had in our wards one man with epilepsy, and another with frontal neuralgia and severe headache. The epileptic attacks only occurred monthly. Both of them asserted that their diseases existed long before enlistment, and that they knew it. Without inquiring into the reality of the disease, we immediately returned them to duty, with a note on the descriptive list, stating the facts *as they gave them*, conceiving it to have been their agreement to do duty, disease and all. Besides the special test in particular diseases hereafter mentioned, there are general modes of discovering malingerers, which are of the greatest value, and which, although they are not new, we have yet reason to fear are not often carried out in practice.

One of the most important of these is the establishment of a system of espionage for men who are lame, paralyzed, choreic, &c., by which they may be observed inside and especially outside of the hospital inclosure when they least suspect it, to see how they act when off their guard, to hear what they say when they are

drunk, and to report to the surgeon, who cannot himself study them under these circumstances. This requires the best and most reliable men one can command, and it must be entered upon "con amore." Not to awaken suspicion, the detective should be on some nominal duty, be allowed a pass at all hours, know when the men have passes, and zealously follow them everywhere unseen. Nor is this a degrading duty, as some would imagine. It is due to justice that the scoundrels should be detected, and it is no less due to an honest man who has unluckily fallen under suspicion, that he should be himself vindicated by the negative proof and by persistent and careful scrutiny.

Besides this, it is important to study the character of a suspected malingerer, as the general deportment of the man in reference to other subjects than his disease may give an approximate estimate of the truth or falsity of his statements. "Falsus in uno, falsus in omnibus," is no less good in the medical jury box than in the legal, and the tacit cross-questioning of observation may educe circumstantial evidence sometimes quite sufficient to warrant a verdict of "guilty," and a sentence of "field duty."

It must not be forgotten that some men carry on the double game of a pretended disease, and an assumed character. Such men are doubly secured if they be adepts, but doubly exposed if novices. Every means that the science or the ingenuity of the surgeon can command is needed, and should be employed, and even then it is sometimes only by a happy chance that they are discovered.

The severer remedies, both medicinal and mental, in most cases, so far as we know, have been too much laid aside. Oftentimes they will avail nothing; tact, rather than force, will win the day, and many a man will suffer dry galvanism, the actual cautery, setons and blisters, and yet persist in his deceptions, whom a simple artifice will trip. But there are other men of different mould who cannot endure bodily pains, and who will yield to heroic remedies when all others have failed.

Anæsthetics, again, are of the utmost value, and often may be summoned as a reserve to decide the fortunes of a doubtful day. Ether has been often used by surgeons to detect malingering, but we are not aware that it has been very widely used, except in cases of aphonia and pretended dumbness, stricture, enlarged belly, and ankylosis of joints, and contractions of muscles. In all these maladies we have either used it ourselves, or have known of its use by others. But its usefulness should not stop here. It is equally valuable in cases of deafness, blindness, rheumatism, paralysis, and epilepsy, as we shall show in considering each of these diseases separately.

But above all, says Bartholow, the surgeon will find it necessary to use his own senses, his habits of observation, and that peculiar tact in detecting impostors, which, whilst it seems an instinct with some, may be acquired by all who are willing to culti-

vate it. This tact is shown in a thousand ways. It seems often almost intuitive, and fixes instantly upon a malingerer for no other than "a woman's reason." It devises unusual means for unusual cases, and adapts old means anew. No better school exists for its development than a general military hospital. Many men may, by this tact, be made to pledge themselves to contradictory symptoms. We have seen a man led to state when his right face was paralyzed, that the mouth was drawn very strongly towards the right side. Some, by having their attention diverted by synchronous movements of other parts, will forget their old complaints, and betray themselves, as we have seen done by a man whose left deltoid was "paralyzed," and who held the arm out at full length for one decisive moment, when our supporting hand was suddenly but furtively removed, at the time he was rising to his feet.

Ankylosis.—We have seen but one case in which this was feigned; ether in five minutes discovered the cheat. Genuine ankylosis can be only either, 1, bony or true ankylosis; 2, false ankylosis by deformity of bones, either congenital or acquired by fracture, &c.; 3, false ankylosis, by bands of lymph; 4, false ankylosis, by contractions of muscles. The first never could be feigned, from its perfect immobility. In the second and third, the sudden arrest of motion on arriving at its limits, is very marked, and the giving away of the bands of lymph as the motion progressed further, would be in the third, diagnostic. It is only the fourth that could be well feigned, and especially by a soldier who had really received a wound of the neighboring muscles or nerves. In these cases, as Dr. Bartholow observes, in some excellent remarks on the subject (*Manual of Instruction for Enlisted and Discharged Soldiers*, pp. 143-4), the endurance of the malingerer is most extraordinary * * * in maintaining a most uncomfortable position of a limb for many months. He might, indeed, have said "years," for many such cases are reported. In one instance (*Cyclop. of Pract. Med.*, ii. p. 138), a conscript kept his right knee bent so as never to touch his foot to the ground for seven years. He escaped detection all this time, and was only employed on light duty; but when discharged observed, "I will try to put down my leg, it may be of use to me now," and walked off with a firm step, leaving his cane as a legacy to his doctor. Need we, in view of such cases, be surprised at the malingering for only *months* in our army?

In the cases of true contraction, the arrest of motion at the instant of putting the muscles on the stretch, and the absence of voluntary resistance, are marked symptoms which a malingerer cannot feign, and in case there be any doubt, etherization will instantly solve the question. We need not resort to all the varied and clumsy means of diagnosis heretofore employed, as mentioned at length by Beck (*Med. Jurisp.*, 1, 77). Etherize the man, and in five minutes detection is a certainty, if he be a malingerer. As

an example of a typical case of feigned ankylosis, well treated and well related, we refer the reader to the case reported by Dewitt C. Peters, Assistant Surgeon, U. S. A., in the *American Med. Times* for March 5, 1864. Another which well illustrates both the perseverance of the moulderer and the complete deception of the surgeon (no less a person than Sir Geo. Ballingall himself), and the excellence and the value of anaesthetics is related in *Ballingall's Military Surgery*, p. 614. Excision of the elbow was about to be performed for ankylosed elbow, which was discovered to be perfectly flexible when the man was chloroformed. It is also to be borne in mind, that a man may cause false ankylosis by long continued voluntary disuse of a part. Such a man is no less a moulderer, but he declares his own sentence, and nature carries it out fearfully and justly.

Blindness.—This has been often, we doubt not, feigned, especially in those cases in which slight but real, and sometimes visible defects existed, which would often deceive surgeons inexperienced in diseases of the eye, and occasionally masters in the art, who had not the requisite instruments for more minute inspection.

It has not occurred to us to have any such cases under our care since an eye and ear ward has been established at the Satterlee Hospital, West Philadelphia, under the able care of Acting Assistant Surgeon E. Dyer. We have, however, one means of detection to suggest, which, so far as we are aware, has not been used, but which could readily be employed even in the field, and might prove of the greatest value. Let the sound eye be covered by adhesive plaster, and the man *etherized*, and when recovering from the anaesthesia, when he is unaware, as yet, of his condition, let his sight be tested by the simplest measures, such as offering him some water (some whisky is better), or your hand, for the affection developed by ether may often be turned to advantage.

We desire also to add one case, kindly furnished us by Dr. Dyer, which is comparatively novel. Its test possesses the great advantage of mathematical certainty. It is a well known fact in optics that a prism, by refraction, presents the object observed at an elevation different from the true one.

One of Dr. Dyer's patients complained of entire blindness in the right eye. An examination by the eye and the ophthalmoscope revealed no lesion, and he was then tested as follows: A prism being held before the right eye, the left eye being open, a pen was held up and the patient asked how many he saw. "Two." What is their relative position? "One is higher than the other." Sadly accurate. His perfect vision was proved, since he saw the pen with the left eye at the real elevation, and with the right eye at an imaginary one. The experiment was repeated with another prism of a different angle, and the result verified, the distance between the two pens only being altered. The prism being removed, the man saw that but one pen had been held up, and very obligingly played cards all the afternoon with his left eye entirely closed by

a bandage. The army of the Potomac speedily received a reinforcement of one.

Lameness is a frequently feigned disease, but is very various in its alleged cause. It is often ascribed to rheumatism, to ankylosis, to weak back, to paralysis, to oedema or varicose veins of the leg, to weakness of some point or of the entire limb. Of these we shall only notice here the last three, the others being considered under different heads. The most difficult cases of all are those arising from an asserted weak ankle, or weak knee. Almost every one has himself felt, after a sprain, a certain amount of weakness, which would have incapacitated him from marching, or even lamed him considerably, and which yet could not be detected by the most expert physician. When, therefore, we are puzzled by such a case, as we often are, and can discover no lesion after the most careful examination, we should seek collateral evidence, such as the man's character, his willingness to work, the general tenor of his story of the origin of his malady, his conduct and gait away from the hospital, and when drunk, if it so be that he indulges thus. A detective should instantly be put on his track, and his every movement watched. He should also be etherized and skillfully baited to walk about and display his powers while thus intoxicated. Even then, after the most patient observation, we are often in doubt, and in such cases we usually act as we would in all puzzling cases of supposed pain. We thus do less injustice, we are sure, than by retaining such men for months, for it must be remembered that while, by returning them to duty, we may wrong, say one man in ten, who is a real case, yet, if we follow the opposite course, we wrong the government in *nine* cases. Besides this, we set a premium on malingering, for however well a man may keep his secret while it is in progress, when his course is run in the hospital or in the service, he recounts his victories over the doctor as well as those over the enemy. We remember one case occurring in Washington, in which the man in whom the utmost care could discover, during some weeks, no source of lameness, was ordered to duty. He begged first for two crutches, then for one, then for a cane, meanwhile barely supporting himself against the wall, but finding that nothing would be given him, he at last, with the most irresistible jollity, slung his knapsack, and jauntily stepped along the road amid the shouts of the men, that "old Chickahominy," as they called him, had been caught and cured.

We are reminded by a friend (Dr. Da Costa) that he has often detected feigned lameness by observing whether the cane is put down before the lame foot, or with it, or after it. A really lame man wants the *support* of a cane, and of course never will use the leg first and the cane *last*. He will always make the cane precede or accompany the foot. Where the lameness arises from varicose veins, their severity must be the test, not always when on the border line, an easy matter to decide. In cases of oedema the

cause of this condition must be carefully sought. We only know by report, of its having been caused by ligatures, for we have seen no such cases. One cause, illustrated in the subjoined case, we find has been also noted by Bartholow (*op. cit.*, pp. 145-7), who says that he had at one time ten men in hospital with lameness from œdema, in whom the only probable cause was compression of the popliteal vein by crossing the legs. This we would propose to cure by keeping the popliteal space *sore*, either by blisters, croton oil, &c. Or, perhaps, what would be better, lest the means of cure be alleged as an aggravation of the disease, to blister the well knee and thigh anteriorly. The following case we detail at length as a remarkable illustration of feigned lameness, mental debility, deafness and spermatorrhœa, kept up with the utmost persistency for months, but finally and fully detected.

CASE.—*Feigned Deafness; Spermatorrhœa; Lameness.*—W. C., private, Co. I, 61st N. Y., at. 35, about the time of the first battle of Fredericksburg, Dec. 13, 1862, states that he was sick with pain in the bones, headache, general debility, &c., when, after some treatment, he was furloughed. In May he was sent to Armory Square Hospital, Washington, and has been in hospital ever since. He was admitted to Christian St. Hospital, June 30th, 1863. He then complained of almost total deafness, the cause of which was unassignable, severe spermatorrhœa, general loss of "mental power," and lameness and swelling of the right leg, with severe pain in the back, such that he was unable to get out of bed. We minutely examined into the history of the trouble in the leg, at the same time gradually lowering the voice with each succeeding question. He was intently interested in impressing us with the horrible state of his limb, and did not notice the stratagem until we were speaking so low that the surgeons about us had ceased to hear our words distinctly. His "mental power," of which he said so much, was unequal to this trial. We learned, also, that when admitted his hearing was perfectly good.

We next examined the validity of his spermatorrhœa. Having had clean sheets, shirts, and drawers furnished him, with care, on the ordinary day for such a change, and, therefore, without awakening his suspicions, we questioned him the following morning as to the spermotorrhœa, and he alleged several emissions the preceding night. Unfortunately for his veracity, we turned down the clothes, and the sheets, shirt and drawers exhibited no trace of such a misfortune. Subsequently he exhibited to us, with some triumph, indubitable evidences, such as we had sought, but the ready explanation of a manufactured article was too obvious for even his "mental power" to withstand.

We were now thoroughly convinced that all his pretensions were false, but the difficulty was to overcome his obstinate *inertia*. With unyielding pertinacity he clung to his last hope. His leg was now, by a curious contradiction, his only support. Driven from every other refuge, he posted himself resolutely in this, and

disputed every inch. Were crutches and canes taken away, he simply interposed the stumbling-block of absolute rest, and threatened to conquer by "masterly inactivity." Grant him the aids to locomotion, and for weeks he hobbled around on two crutches, with his leg slung in a broad and showy saddle-girth, bemoaning his enfeebled power of ratiocination, and requesting, now and then, in a tone of quiet assumption, some new privilege, such as a reporting pass, or be allowed to go and come without any pass whatever, on the ground that he had formerly been an officer, &c. Indeed, he assumed a manner far above those whom he called "the men," rarely associated with them, claimed the privileges due him as a former medical student, talked metaphysics, chess, and politics, and had so dainty a stomach that he was constantly requesting at least the small favor of an early pass, to get some breakfast as he had been unable to eat the plebian and coarse hospital ration.

We soon found, by close observation of his leg, that there was never a ligature around the thigh, as we had suspected, but that he kept up the œdema by constantly sitting with his leg resting on his crutch, which was placed under the popliteal space. Soon after, he completed his race. One bright, moonlight night, the steward heard an unusual noise just after midnight, on his roof, and, on going to the window, he saw our lame man drop from the eaves, outside the hospital, and make a nimble escape without crutches, after having climed over a fourteen feet pavilion. Undoubtedly he got in the same way, for the next morning he was in the ward, and stoutly persisted that he had not been out. Convinced by the concurrent testimony of two witnesses, and the condition of his clothing, we ordered that if he did not walk out to his meals, he should neither eat nor drink. For three entire days not a mouthful passed his lips, and even then, with a resolution that would have won him fame in any honorable course, he only went in the most helpless manner that could well be imagined. After two days, we sent him to the hospital then designated for malingeringers, where he so successfully imposed upon a new surgeon in charge, that, against the remonstrances of the ward surgeon, and the antecedents of the man which we had carefully furnished, he was allowed the most unlimited privileges, until a peremptory order from the medical director sent him to "duty." How far he got may be imagined from the fact that our last intercourse with the scoundrel, three months afterwards, was to order him out of our hospital, which he visited as an able-bodied citizen, in a glossy black suit.

Deafness.—We have had a few cases of deafness under our care, of which but one, so far as we know, has been feigned. This case has been stated at length under the head of lameness.

Most of the cases of deafness, unless otherwise more gravely complicated, have been treated by Dr. Dyer. If feigned, they are usually detected by various ready expedients, such as in one of Dr. Dyer's cases, in which, after blindfolding the patient, he held a watch out and asked the man, in a low voice, if he could hear it. "No," was the answer, its categorical form dispelling any doubt that he was answering the *act* rather than the question. Or, as in our own case, when the man's leg was implicated as well as his ear, and while engaging his attention wholly in regard to the former, the voice was so lowered that one of us sitting near the interrogator, could scarcely hear, while the patient answered readily every question. The manner and voice of a deaf man are peculiar, and can hardly be simulated well. Bartholow (*op. cit.*, p. 108) characterizes his voice as "low toned," but our own observation leads us with Gavin (*Feigned and Fictitious Diseases* p. 49) to call it rough and loud, for the very good reason that the man is unaware how lowly he does speak; this is only true, however, in case of marked deafness. He is more happy in his quotation from the *Cyclop. of Prac. Med.*, ii. p. 139), of "the natural but involuntary language of the countenance" as evidence of imposture. Ordronaux also describes aptly (*op. cit.*, p. 71) the interrogative attention of the really deaf as so different from the dull and stupid air assumed by the simulator, and calls attention to the evident fact, that perceiving the fall of a heavy body on the floor may be deceptive as to supposed simulation, since it may make itself known by the shock of its fall. Even very deaf persons, too, can often hear a steam whistle, a drum, or a bell.

In deafness, too, we have to suggest the employment of ether, apparently the best test in malingering in its protean forms.* If in the stage of semi-consciousness, when the man forgets his surroundings, and their necessities, he can hear, there can be no doubt as to the case. We should regard the test as conclusive. Of course, suspicion of malingering can only be entertained in case no real disease can be detected on the most careful and thorough examination of the ear by a speculum.

Diarrhoea and Dysentery.—These diseases are not very frequently feigned, so far as we can learn, probably because of their inconvenience. We have seen but two instances. We have mentioned them for the purpose of pointing out the only sure and ready means in case of suspicion. Place the patient under guard, and let each stool be separately observed by the surgeon, if possible, or by the steward, ward master, or other person. This method can never fail us, unless the man has real diarrhoea produced artificially, when the cause must be looked for and removed.

* Recently, in our wards, ready detection was thus obtained in a case of well simulated deafness.

Of Voluntary Vomiting.—We have seen one case at Christian St. Hospital, and Dr. Bartholow has observed two instances. These cases are, we believe, unusual, and, owing to this very fact, are apt to escape, their true nature being scarcely suspected. In all such, the proper treatment is that which was adopted in the three already mentioned. If no loss of flesh nor constitutional disturbance result from the loss of food, nor any disease of the stomach sufficient to cause the phenomena, be noticed, let them be returned to duty, with the proper note on their descriptive list.

Spermatorrhœa.—Although scarcely any notice is taken of this disease in the books, we believe it to be far more frequently feigned than many others of greater prominence. It has been our fortune to meet with four cases of alleged spermatorrhœa, three of which were feigned. They gave reasonable accounts of themselves, deriving their information either from previous experience, or from some of the wretched publications of the day. We readily detected them by having their bed linen and shirts changed at the usual time, and inspecting them for a couple of weeks without the patient's knowledge. Notwithstanding their asseverations of repeated attacks, not a spot could be found. Sometimes, on the assertion of the first discharge, an immediate inspection of the bed-clothes and shirt has proved the falsehood of the man, much to his chagrin. Subsequent evidence in this direction is valueless, for very obvious reasons.

Pain is not a feigned disease, but is the most easily feigned symptom, the most difficult and often most apparently cruel to gainsay or deny, and, at the same time, the most available stronghold to which the malingerer can resort. "If a man positively affirms that he suffers great pain in some portion of the body, it seems to the popular mind absurd for a surgeon to affirm that he does not, and this idea has been acted upon till forbearance is exhausted." (*Woodward's Camp Diseases*, p. 326). That Dr. Woodward's criticism is essentially just, is the only reason we can offer for introducing the subject here, and not because we have anything new to suggest. The only general rule to be observed is, that *where no other evidence than a man's assertion of pain exists, he should be sent to his regiment.* But it must be understood that "no other evidence" is to be accurately determined, and that the rule has exceptions.

We have in our wards three cases of wounds of nerves, in which the only effect left is the neuralgic pain, but we keep them, and treat them, because we regard the seat of wound, the original lesion of motion and sensation, the frequency of just such neuralgic pain, and the men's good general character to be sufficient "other evidence." Yet in two cases of what we knew to be the most agonizing pain, with greater evidence than these, we have known a good surgeon to pronounce the men "humbugs," or, at least, "exaggerators." No symptom calls for such thorough, pa-

tient and discriminative examination, and such thoughtful, conscientious decision. While Fodere's case serves as a warning from blind severity on the one side, let the many flagrant deceptions successfully practised on surgeons keep us from too weak indulgence on the other.

Often the unexpected employment of a little artifice will suffice. We had one man who complained of constant pain in the hand, from a wound in the median nerve. The wound of the nerve was, at best, very doubtful, and his exaggerated shrinking, even when pointed at by the finger, led us to suspect him strongly. Pressure was excessively painful, and he would scarcely allow his hand to be looked at. Yet one day, on the plea of seeing how well he could use his hand, while examining minutely the movements of each phalanx of each finger, without his knowledge, we pressed heavily on every part of the hand, and he did not even wince.

No men are so apt to exaggerate and overact their part, nor any so apt to endeavor to insure belief by backing their assertions by repetition and affirmation, as those who feign simple pain. Such means are necessary to bolster doubtful assertions only.

Insanity.—Long treatises of the greatest value have been written upon the subject. But in our army they are rendered absolutely worthless, save in reference to drafted men, and in the Government Insane Asylum, since it is forbidden to discharge insane men. And any one who would feign insanity and submit to its restraints and associations to avoid work and obtain ease, must be in reality a monomaniac. The number of cases of insanity in our army is astonishing. The assistant surgeon at the insane asylum informed us that the average admissions there from the army alone were rather over one every day.

"*Back Cases,*" as we familiarly termed them, are those in which the patients complain of "lame back," "weak back," "pain in the back," "kidney complaint," "rheumatism," &c. They occur by dozens in every great hospital. They are in most cases, we believe, real, but from this very fact are also frequently feigned; the more successfully from the obscurity of the symptoms and pathology of the disease, for we believe, with Dr. Cheyne, that the most exact and scientific knowledge is at once the most ready means of detection. It is not strange that in a large army, exposed constantly to the vicissitudes of a soldier's life, marching in rain and sunshine, sleeping without protection, building intrenchments with the spade and the axe, and exposed to all the accidents of the battle-field, an immense number of men should suffer from spinal meningitis, chronic or acute rheumatism, sprains from falls, blows, or carrying heavy loads, congestion and inflammation of the kidney, &c. Many of these cases improve under the appropriate treatment, as indicated by their history and symptoms, and some get worse and worse. But, then, a reserve of many more remain as they were, and it is here that the malingerers are found, for they will never get any worse, be it noted, than is necessary

for them to succeed. We can give no better description of them than that of Assistant Surgeon Woodward (*Camp Diseases of the Army*, pp. 324-5):

"These patients complain loudly of pain. They stoop in their gait and limp about by aid of sticks, but they appear well nourished, devour their full ration of food, and present none of the grave constitutional symptoms of the cachetic neuralgias we have considered. Nor are any of the symptoms of chronic rheumatism present. There is no deformity, swelling, stiffness or immobility of the joints. These patients are more apt to attribute their malady to a strain than the genuine cases, and tell frequently a pitiful story. The experienced surgeon will often detect them by this story alone; they whimper and even sob in an unmanly manner, which in itself alone should produce suspicion."

Here, then, the most careful scrutiny must be exercised. Every means of diagnosis must be employed. The history and symptoms must be obtained in detail, the body strictly examined, the urine analyzed, the constitutional condition studied, and the progress of the case carefully noted.

We well recall the case of a man now in our wards, who was transferred with a note on his medical descriptive list, stating that he was believed to be a malingerer. His urine was loaded with oxalates, and his febrile and weak condition in a moment assured us that he was a real sufferer. His subsequent history medically, and the most tender, careful and reliable nurse we ever had, fully confirmed our opinion. Yet we remember equally well another man, who deceived one of us completely, by his connected story and consistent symptoms, until his captain accused him, on the descriptive list, of cowardice, when he immediately deserted, by climbing over a fourteen feet fence, to avoid facing the charge in his company, whither he was to be sent.

These cases have enjoyed the unenviable and single notoriety of having been prohibited from being discharged, by order of the War Department, and with the best of reason. All authors are agreed that where the surgeon can discover no lesion after careful search, he may conclude that "in nineteen cases out of twenty * * no material disease exists" (Marshall), and of course fearlessly return the man to duty.

Often such cases *may be detected* by their mode of using a cane, as noted under lameness, by their discrepant and exaggerated histories, by the reputation they bear with their regiments, as ascertained from the descriptive lists, or from other men of their regiment, by their general character, the alleged want of effect of narcotics, and by espionage, both in and out of the ward. This last, in such cases, we regard as the most valuable means, and unfortunately the most neglected. In one case, at the Fort Schuyler General Hospital, a man "who had gone for many months in a semi-erect attitude, suddenly straightened himself and threw up

his arms to pull down the cape of his great coat, which a gust of wind wrapped about his head." Another, a lame man, who ran to catch a steamboat on the point of leaving, and the subjoined case, all illustrate its use. Our own case also shows the pertinacity and endurance of the man, and that the severe remedies which often relieve rheumatism, are not always calculated to make the malingerer yield.

CASE.—Patrick C., æt. 40, laborer, Irishman, was sent to us as a very bad back case. For four months he had hobbled around, a pitiable object, exciting the sympathy of many visitors, by heart-rending tales about his poor back.

We examined his urine and found, with some surprise, oxalate of lime in abundance. Having, however, several cases of oxaluria in the ward, we suspected him of theft or exchange, and, therefore, forced him to pass it the next day in the presence of the ward-master, when the oxaluria suddenly disappeared and never again returned. One day in December, however, he was discovered at some distance from the hospital walking erect, and with his crutches under his arm. Here was proof positive, so we took him aside, and told him quietly that he was a scoundrel. At this, his indignation knew no bounds. More solemn appeals to Heaven as to his truthfulness were never uttered. We offered to gradually let him get better, and thus save his reputation before the men, and then to send him to duty; but nothing would avail. He still persisted in his innocence. Warning him that a thorough "course of treatment" would be entered upon, such as would do him good if he were really ill, and thoroughly punish him if he were not, we left him. Crutches and canes were interdicted, and he was ordered to go to the table or go without food. The seton was the first means employed, and good care was taken to put two very large ones on each side of the spine, in the suffering "small of the back." Having pretty thoroughly irritated the parts, the tapes were removed (although the bad "humours" of his system seemed rather increased than diminished by them), and dry galvanism to the back was substituted. To apply this the part is thoroughly dried (by flour rubbed on it), and then dry metallic conductors or the metallic brushes are passed over the surface. This limits the electricity to the skin alone, and is the most painful of all the applications, which do not destroy tissue. At the close of a week he begged hard "to be let off that darned lightnin'." At this time we had begun to use the actual cautery, which, as the ward-master remarked, had "rather cleared the moral atmosphere of the ward." After earnest and repeated remonstrances, this means was employed in the present case. After three cauterizations he still held out, and when about to suffer a fourth, he became, one day, slightly intoxicated, threw away all aids to movement, and danced a jig to the amazement of the ward, and to his own future sorrow. He was at once put in the guard-house, where he gave

up any further attempts at deceit, and was sent to the field. We learned, in a month, that he had been discharged at Alexandria, where, as he said to a comrade, the surgeons were easier to cheat than at Christian St. Hospital.

Paralysis has been a common disease in our wards, and of course has been often feigned. In two cases which we discharged we were probably deceived, although, as to one of these, some doubt may exist. The other withstood every test we could apply, and was discharged, to become, soon after, a door-keeper at the Sanitary Fair, where we saw him in a state of sudden health and vigor.

Men who are placed in the same wards with numerous cases of any malady, have an opportunity to study symptoms, and of course to imitate them with the best chance of success. Of this we saw many instances. Besides the general methods of detection, special means are available in cases of feigned paralysis. If the history of the case be a complicated one, and notes have been taken at the first examination, it is sometimes useful at a later date, to oblige the man to restate his case in full, and to observe discrepancies. Where a wound exists, the patient would sometimes add those symptoms of nerve lesion which he had seen in other men, and in this case the anatomical relations of the wound became of moment. Galvanism was here, as in many forms of supposed palsy, of the utmost value, because, in severe nerve wounds, and in spinal lesions, the loss of electro-muscular properties is apt to follow in the muscles affected. In feigned anaesthesia, the precise limits of the loss of sensation should be noted, while the patient is blindfolded, to observe whether these boundaries are the same, and to see how they differ from day to day, and whether in wounds they correspond to the nerves supposed to be involved.

One of the best tests, too, which has suggested itself to us, and which we have used, has been ether. Several other authors (S. Kane, *Am. Med. Times*, Feb. 27, 1864; Beck, *Jurisp.*, i. 47; Baudens, *Comptes Rendus*, March 8, 1864, &c.), we find have employed it or alluded to its advantages, but we are not aware that it has received the general attention and credit which it should have obtained. If the paralysis is alleged to be complete, and especially if it be from a wound in the neighborhood of a nerve, or is supposed to be the reflex effect of a distant wound, it is invaluable as a means of diagnosis, and should not be neglected. Tact also may be of the greatest service. We have again and again detected a man who complained of paralysis of some muscles, those of the shoulder, for instance, by extending the limb, and then suddenly removing the support when least expected, or when his attention was withdrawn from the limb and directed to some other act. For a moment the muscles would almost instinctively resist the force of gravity, and give unwilling but decisive proof of their power to sustain the weight of the arm. Or again, the limb may be quickly and unexpectedly thrown up, when the

motion will be resisted, or its fall prevented. By inducing spontaneous or alternate movements of well and paralyzed parts for pretended purposes, we may also often surprise a malingerer. And finally, by the employment of severe remedies, we may frequently subdue a deceiver.

The following cases illustrate, in detail, most of the above statements :

CASE.—F. W. W., private, Co. A, 121st New York, was admitted to Christian Street Hospital in June, 1863, with a gunshot wound of the left neck, on a level with the angle of the jaw, emerging near the spine. The ball evidently had injured no important nerves. He complained of stiffness and complete paralysis of the muscles of the neck, such that his head and neck were twisted to the left, and his chin pulled down, nor had he the power to use the muscles of the shoulder, especially the deltoid. The entire military history of the man was bad, and while with us grew worse and worse, till he deserted ; but was, after two months, arrested and brought back. Meantime we had caught him moving his head about when he thought we were not observing him, and we finally brought him to using his neck as well as ever, by congratulating him on his gradual improvement.

But the left shoulder was incorrigible. For months (when he was in the hospital at all), he kept it to his side, not hanging loose and dangling, as a paralyzed arm does, but tightly to his body. The electric condition of the muscles was not altered, and as this was very remarkable, we detained him for some time till we could determine electrically in other men the state of muscles long voluntarily kept at rest, as on splints, for example. Soon after this we found that the electric condition of such a muscle, when not at all used, is very markedly altered, and we became sure that he used his arm out of our sight, and that neither was it injured directly nor by reflex action.

We then etherized him. He feigned admirably at first, the muscular relaxation of ether, and we thought him anæsthesiated without result. But suspecting the double game, we carried the ether still further, and had, in five minutes, the pleasure of leaving him yawning and stretching himself, the arms far above the shoulders, and every effort to move them *down* resisted by his deltoid. The movements were, of course, somewhat weaker than those of the other arm. He was sent to his regiment with a note on his descriptive list giving the facts as stated.

CASE.—Private B., Co. C, 12th Pa. Reserves, complained of palsy of the left side. Soon after his admission, we learned from a ward-master that our unfortunate cripple, who hobbled about with a cane, had become drunk at a ball, and was ejected, with difficulty, by five men. There was a little doubt as to these facts, but none remained after the following week. The men occasionally

were allowed to dance in the mess-room on Saturday evening, one of them fiddling, while an officer was present to prevent disorder. On one of these occasions the music was too much for B., who ended by dancing an astonishing hornpipe. The usual consequences followed. Return to duty—convalescent camp and discharge—for when one of these men reaches the convalescent camp, his escape appears to be certain.

CASE.—Private Dewitt, C. R., Co. C, 68th Penna., evidently a man of considerable intelligence, was admitted into Turner's Lane Hospital in April, 1864. The first glance at the man aroused our suspicion, and we examined his military history. After serving with the three months volunteers, and a subsequent commission as adjutant, in July, 1862, he enlisted as orderly sergeant in his present company. From some trouble with the colonel, as we learned privately from some others of his regiment, who also confirmed our suspicions as to his character, he had been reduced to the ranks, and in the sixteen months after, had never done a day's duty. He asserted it was under the operation of a general order as to absentees.

He stated that after being in hospital for diarrhoea, from Dec. 62' till June, '63, at his own request he was returned to duty. While on the way to the front, at the convalescent camp, he was sitting at noon in front of his quarters, after having superintended a squad of laborers, when suddenly he felt an "oppression in the head, and fell unconscious." When he awoke, towards night, in the camp hospital, he had full use of his left side, but the entire right side was paralyzed. Sensation and motion had been lost in the right face, body, and arm, entirely, and in his right leg partially, and he was unable to talk. At another time he stated that his right leg was not at all affected, and on our expressing surprise, evidently thinking it ought to have been so, he suddenly remembered that it had been almost entirely useless. His bladder, too, he first stated to have been unaffected; but on using the same tactics, we found that he had had incontinence. By a curious physiological contradiction, too, he stated that when his face was first paralyzed, his tongue and face had been drawn to the right.

Feeling and motion had gradually returned in all the parts affected, save that on admission his right arm was still weak, his right face was said to have lost sensation wholly, and motion partially. He limited the loss of motion mostly to the frontalis, levator palpebrae superioris, and tongue.

We began our examination by a course of facial gymnastics. He could shut both eyes well; could open the left widely, and thus elevate the eyebrow; but by no effort could he thus move the right eyelid and eyebrow. We ordered him to open one eye and close the other, and vice versa, when to our amusement, his mind being distracted by the double movement, his right eyelid and brow moved once or twice with the most perfect ease. Next, his tongue was examined. He inclined it also to the right, the

reverse precisely of what it should be, for, in cerebral palsy, implicating the 7th nerve of the same side, the body of the tongue (like the face) is usually drawn towards the sound side. Thinking, however, that, as in the case of his frontalis, we could trap him, we told him to protrude the tongue, on the plea of examining his palate. He first protruded it perfectly *straight*, and then, remembering that it ought to be paralyzed and crooked, he suddenly threw it to the right. Every other movement he possessed perfectly, and his pronunciation of the linguals, gutterals and labials was perfect.

The next point was the sensibility of the skin. He first had his eyes closed, and on touching him with a pencil, he stated that he felt nothing. We then suddenly thrust a needle into his face, when he also declared the absence of feeling, and he certainly did not wince. We now tried dry galvanism with Duchenne's powerful battery, powdering his face with flour, and applying the electric brush. The moment the current was established, he slid uneasily forwards in the chair till he could furtively seize the seat and brace himself, by his hands and feet, to bear the pain. By these means, and by secretly grinding his teeth, a movement betrayed by the tell-tale masseters and temporals, he bore the severe pain, which bedewed his face with perspiration, and declared, with amusing nonchalance, "that he could just feel it a little."

His body, he stated, was perfectly free from disease, but we thought we could work a little on his imagination, and proceeded to examine for spinal tenderness, remarking, casually, that we thought it an instance in which we should probably find "that tender spot about the middle of the spine, which we had so frequently found in such cases." He was completely deceived by the allusion, and on our reaching the middle of the spine, he suddenly quaked and shrank from the pressure, saying it was very tender there. Pressure being continued, and allusion made to a patient who had fainted on being pressed at that spot, immediate syncope was threatened, and was only prevented by his breaking away from us with a look of agony. He speedily returned to duty, with a note on his descriptive list.

Thoracic diseases have fallen under our care but rarely in our present wards, which receive none but instances of neural diseases or injury. We have met, however, with some cases of feigned consumption and heart diseases. We are indebted to our colleague, Dr. Da Costa, for most of the following particulars. In his position as surgeon in charge of the wards for thoracic maladies, he has had ample opportunities for studying both real and feigned cases.

He has found that consumption and shortness of breath are among the most frequently simulated diseases of the chest. Dyspnoea in these latter cases is never worse at night. It is not altered by exercise, and those who feign it make an unusual display of noise in breathing.

Consumption in its early stages is more readily feigned. By constant coughing, a well man can produce great irritation and congestion of the throat, and the expectoration of quantities of mucus, which he may tinge with blood from his gums, or pricking his finger, &c., and it seems cruel to send a man to duty who is "spitting blood." The only way to detect them is to watch them with the utmost exactness, and especially to make the most careful and conscientious physical examination. We are convinced that most of those who escape field service from this cause do so because of the want of confidence of surgeons in the accuracy of their diagnosis. They are not sure but that there *may* be some disease which they have failed to observe, and so they take the safest course and let the men go. No remedy can be found for this difficulty but careful and diligent study and practice on the part of the surgeons.

The uncomfortable and curious production of heart disorders by tying ligatures tightly around the arms and throat, noticed by some older writers (*Dict. des Sci. Med.*, vol. 51, p. 326), has, we are sure, no place in our army, and we think no surgeon could be deceived by such means. Nor do we suppose that medicinal agents, such as white hellebore, digitalis, &c., have been employed. The means that are used are much more ready to hand, and are safer. Such malingerers, when examined, nearly always hold their breath, apparently with the idea that it has *some* effect on the heart. To such an extent do they practice it that to avoid its obvious functional influence Dr. Da Costa always observes carefully that this function is normally continued. The use of tobacco, especially apt to be excessive in their lazy hospital life, unquestionably tends to produce functional disorders. But they also constantly assert very severe *pain* directly over the heart, which is not a frequent nor urgent symptom of true cardiac troubles. One person in Dr. Da Costa's wards, an obtrusive, persistent man, was in the habit, greatly to his annoyance, of seizing the Doctor's hand and convulsively pressing it over a heart beating at sixty-eight or seventy, begging him to see how it beat! and what a pain he had!

Some people have undoubtedly the power to control the pulsation of the heart, either accelerating or slowing it at will. A remarkable case is quoted by Hennan (*Military Surgeon*, p. 371), in which the patient could simulate even death itself. But such cases must be rare. In Dr. Da Costa's extensive experience he is unaware of a single instance of this voluntary control over the cardiac actions.

It is, however, a point to be remembered. One of us, Dr. Mitchell, has shown, see *Amer. Journ. of Med. Sci.*, April, 1864, that in some persons deep inspiration, when long continued, will retard the heart pulse as much as thirty beats per minute, while deep expiration is competent to produce great acceleration of the pulse.

Aphonia.—This seems to be a disease feigned by soldiers of late years only, for scarcely any of the older writers on malingering even mention aphonia, although they treat of complete dumbness. We have now had under our care nearly twenty cases of loss of voice, more or less complete, only one of them amounting to true dumbness. This last case was seen by one of us at Frederick City, Md., after the battle of Antietam. His story was that a shell exploded very near him, and that he was so stunned as to fall senseless. He was sure that he was not hit, nor could any evidence of a blow be found a week afterwards, when first seen by Dr. Keen. In falling, he had hurt the back of his neck slightly, but no bruise existed even there. When he regained consciousness, in about twenty minutes, as he judged by the movements of the regiment, he found that he had completely lost his voice. No other effect was observed. When examined, in Frederick, he gave a very intelligent and consistent account of himself by writing his answers, and his character as an industrious and willing nurse, at a time when such duty was no sinecure, was of the very best. His hearing and eyesight were perfect; all his limbs were sound; his appetite and digestion good. No laryngoscope was at hand, so that no complete laryngeal examination could be made. His breathing was regular and even, but he seemed unable to make the slightest sound. Every possible test, even to etherization, was thoroughly employed, but no sign of vocal power, not even a cough, was detected. After six months' surveillance as a nurse, he was discharged. We have no doubt of the reality of this case. Was it a case of reflex paralysis through the intermedium of the auditory nerves? We have seen cases of strabismus produced by the same cause.

But two of these cases examined by us of late have been imposters. In every instance of hoarseness, whispering voices, or loss of voice, we have used ether as a primary test, and always in the ward, before the other patients. It has been greatly to their amusement, as well as our own, to hear a whisperer begin to lisp out his feeble and sometimes pretended silliness, but soon with charming forgetfulness roaring aloud. The jibes and jeers of the men in the ward are all that are afterwards needed to make such men ordinarily the most willing candidates for the front.

But here, as in all cases, the greatest care must be exercised in giving the ether. No examination should stop short of complete and thorough anaesthesia, unless voice reappears at an earlier stage. It must be remembered that in the army, where so many men are familiar with the use of ether, they sometimes *simulate the effects of etherization*, as well as the aphonia. Two very entertaining cases of feigned aphonia occurred at the 16th and Filbert St. Hospital, Philadelphia, for which we are indebted to Dr. J. Da Costa, one of which is in point. The man completely simulated the muscular relaxation and stertorous respiration caused

by ether, and the surgeons were about to give up the case as genuine. The administrator of the ether, however, poured some more on the sponge, when, after a few inspirations the patient passed into the real stage of excitement, shouting at the top of his voice, and that no slender one.

The second man, on regaining his senses, found himself talking without the slightest difficulty, but quickly recovering himself fell at the surgeon's feet, with clasped hands, exclaiming, with a voice and attitude worthy of a Garrick, "Thank God, doctor! you have restored my voice."

Sometimes, it is true, no voice will be elicited from a healthy man by etherization, but these cases are not frequent, and still less frequent would be the chance of its occurring in a case of feigned aphonia. If it did, the ether would of course fail to exhibit the deceit, and he could only be exposed by catching him in some other way. Practically however, *every* case of aphonia should be etherized, even when inflammation really exists, and if no voice be elicited, should be considered genuine, and treated as such. We can hardly expect to meet with such a simpleton as Parr speaks of in his *Medical Dictionary*. "How long have you been dumb, my good friend?" asked a passenger with the most insidious humanity. "Three weeks, sir!" replied the incautious deceiver.

Epilepsy.—We have had a very large experience in the treatment of this malady, having had between eighty and ninety cases under our care. That real epilepsy should be so frequent in the army need not excite astonishment when we consider the numberless cases of wounds of the head, sunstroke, falls, &c, and the immense exposure incident to such a life. When compared to the number of the insane, it is not remarkable.

It is certainly, we think, not frequently feigned in our own army. The "petit mal" we have not seen feigned in a single instance, and, although it is not impossible that some cases may have eluded our observation, yet we are only aware of three cases in which any form of the disease was simulated.

That it should be feigned at all is not a matter of surprise. It is a frequent disease in the army. It is characterized by so great a variety of symptoms that it often seems to know no law, and above all its healthy intervals, so greatful to both real and assumed sufferers, its possible attacks when away from the hospital, or at hours when the surgeon is not present, and, as observed by Ballingall, its intermitting character, which obviates the necessity of continuous simulation, are so tempting that its infrequency in our army should rather astonish us.

It is a most difficult disease to detect. Some authors regard it as easy to decide between the real and assumed disease, and speak of it with a flippancy which shows conclusively that they have seen but little of the disease. In every case before us we have asked ourselves, "Is it real?" and have never neglected, at any

hour, day or night, to observe carefully the paroxysm itself, and yet in many cases it has been only after the most patient observation and thought for months that we have been able to decide. The very reason why it is simulated is the difficulty of its detection, as already observed. It is difficult to disprove the loss of consciousness and of sensation; and the undoubted existence of reflex actions, as we shall show, adds greatly to this difficulty; the convulsive movements are of such a character, frequently in the real and almost always in the assumed fit, that the pupils cannot be observed, and the endurance and persistency of many malingerers is such as almost to set at defiance all severe means. It is chiefly "by artifice that feigned epilepsy can be fully detected," (Cope-land, *Dict. Pract. Med.*, i. 1031), but even this, in a large hospital, is often only valuable in the first instance in which it is employed, since it then may become notorious throughout the ward. Fore-warned is forearmed, and artifices such as have sometimes been used, such as to purpose to pour boiling water on the person, and then to pour really cold water on him, or intended castration, or the insertion of a red hot ramrod into the rectum (as once proposed with success by a naval officer), all lose their value with their age and their notoriety.

Besides this, we have to contend constantly with the want of mathematical certainty in nearly all tests, and this not only applies to this disease, but to all others. The evidence is often circumstantial and cumulative, and each surgeon must judge for himself, when the point is reached in individual cases at which it shall be conclusive.

One remark should here be made as to their discharge. If the epilepsy is not more frequent than once a month, nor such as to incapacitate them for work in the meantime, they should not be discharged, but should be transferred to the Veteran Reserve Corps and employed on hospital duty. That this is quite possible is shown in our own hospital, where in the kitchen, dining-room, wards, and even on guard, we have a number of the most efficient men who are epileptics.

Many of the test symptoms, which we see largely dilated upon in the books, we are quite sure are unreliable. Thus, in true epilepsy, the thumbs are said to be flexed under the fingers, and frothing at the mouth is described as an almost constant symptom. It is said, also, that the eyes are opened and staring, that the tongue is generally bitten, that a cry ushers in the attack, &c. The cases we have seen have been nearly all produced during service, and hence our remarks apply to these alone, and not to civil cases. Now among the army cases any of the above named symptoms may be absent. Few men cry out when the fit begins, the bitten tongue is very rare, nor are the other popular medical tests of genuine epilepsy any more reliable. Injury from the fall has been considered important as testimony, but most epileptics sink relaxed before becoming convulsed or rigid, and so do

not hurt themselves, or else, as is common, they have a moment's warning, and crouch at once, so as not to fall. Gavin, *Cyc. Pract. Med.*, tells us that the true epileptic does not sweat during the fit, a proposition which we positively deny. It has been also said, that, if a cold douche checked the fit, it was sufficient to prove it a feigned attack; but this is made useless by the fact that we have seen more than one case of true epilepsy in which a cold douche would terminate at once any single fit. Nor is the expression of the face more available, because it only comes later in the disease, and in many cases not at all.

Apart from the points just referred to, there are others which are more important as tests, and which have been so looked upon by authors. The most characteristic of these, are loss of consciousness, loss of sensation, absence of reflex movements, such as immobility of pupils, want of response to tickling by muscular acts, etc.

And first, let us premise that too little has been said about the time at which these tests are applicable. In the fit quiet observation is difficult. We have seen in our wards one hundred and fifty-eight convulsions in three days and nights, and with an experience, of which this is mentioned as a sample, we confess that it is often very hard to make correct observations during a fit, and that in some cases it is impossible. The period of repose, stertorous sleep, or coma, which follows so many real cases, and is imitated in false cases, is better adapted for observation, and tests which apply to it are most reliable. In a large number of our own cases the epilepsy consisted in a succession of paroxysms, extending over one or many hours, with intervals between, of utter unconsciousness. We met, also, with cases of single fits, at every possible interval, and with a strange and confusing number of instances of recurrent vertigo, of catalepsy, and of every form of spasms known to medicine. One and all are entered on army descriptive lists as epilepsy.

The first admitted test is loss of consciousness. Consciousness is exhibited by the outward evidence of mental acts, requiring reason, memory, perception, etc. Sensation is made known as active, by evidences of pain when irritants are applied to sensitive surfaces. When actual distinct evidence of consciousness during a fit has been obtained, the man must be a malingerer. But we have met with several cases of convulsive nature, where apparent consciousness existed in the fit, and in the interval between two of its paroxysms. The man replied to questions, and gave other evidences of mental activity; and yet these cases came to us labeled "epilepsy." Would the test of apparent consciousness have been of safe application in them?

The books speak of absolute insensibility as a test in epilepsy, and of the use of sternutatories, hartshorn, hot water, the cautery, and other severe means, as applications to suspected cases. They state that the real epileptic will make no response to such agents,

and that if he give evidence of sensation he is malingering. Here, again, we beg leave to say that if this refers to the fit itself, it is incorrect for light cases, and practically inapplicable in cases of very severe convulsions. Epileptics in a slight fit, or at the beginning or close of a severe one, do very often move when irritated, responding by simple reflex acts, and not by co-ordinated volitional motions, calculated to evade the irritant, or to protect the part. We have seen a severe paroxysm caused by the use of the hot iron during an interval between two spasms, and almost universally they winced, and flexed the fingers violently, when a needle was thrust under the nail; but no effort was made by them to draw away the hand, or push aside the needle or the iron. We must, therefore, be careful as to the proofs of insensibility which we accept. This is the more necessary in a class of cases of which we have seen several instances. In these there existed a locality, large or small, which seemed to be hyperæsthetic during the intervals, and even in the separate fits. If this part were pinched when the patient was half conscious, it aroused him. If he were in the fit, it intensified that, and if in a deep after sleep, or awake, it often caused instantly a new fit. The region thus become hyperæsthetic was, usually, unconnected with the cause of the fit, and was most often the pectoral muscles, or those at the back of the neck. In these localities the muscles of such cases were at all times tender on pressure, while, during the interval between paroxysms, occurring at brief distances of time, they were so tender as to give rise to the effects above detailed. More will be said of these singular cases in our papers on epilepsy and hyperæsthesias. We have said enough to show how great must be our caution when judging as to what amount of sensation exists in a given case of supposed epilepsy, for, as we have seen, there may occur in real epilepsy certain consequences of irritation well calculated to deceive.

Even in simulated epilepsy, where the cheat is undoubted, it is not very easy to procure decisive evidence of the existence of sensation. In this state of violent and voluntary muscular spasm the power to feel pain is greatly blunted, and the body is in the best condition to resist pain. All of us bear pain better when we set the teeth, grasp a chair, or otherwise cause severe muscular movements; while also there seems to be some instinctive relief in the active motions which every one makes use of when in sudden suffering. It might easily be shown that this is not the only instance in the economy where the use of one function lessens the perfection of another; but enough has been urged to show that in a simulated fit it is not easy to get certain evidence that a man feels. If we apply our irritants in the simulated after-coma, we are met by the fact that in the post-spastic stage of real epileptics every conceivable amount of variety exists as to the power to appreciate painful impressions. Perfect insensibility, if it exists here, is of value as evidence; but all less distinct signs of conditions within this state are of imperfect use and value.

The state of the reflex system as to responsive movements in the fit, or in the after comatose state, has been carefully attended to in a large number of our cases. Contrary to the general belief and statement, we have been compelled to believe that in a majority of epilepsies, when observation is possible in the fit at all, it will be discovered that reflex acts follow the use of irritants. If you choose a moment of pause in a paroxysm, and tickle the foot, there will be jerking of the leg, or flexion of the toes. If a needle be run under the nail, he will wince, or stir a little, while in some instances a blow aimed at the open eye will cause winking. It will also be found that irritants often cause reflex movements in the condition which follows a fit; but again we say that no one can apply these tests in a severe epileptic convulsion. Their proper appreciation demands care and delicacy. They are useless and vain amid the storm of muscular action which makes some of these fits so terrible.

The most important test founded upon the supposed loss of reflex susceptibility is the state of the pupil. Upon no other are all authors so firmly agreed, or so emphatic. We are sorry to add that no other has more deeply disappointed us.

We may formularize the general medical opinion thus: In an epileptic fit the pupils are generally dilated, and are insensible to light, being perfectly moveless. They cannot always be easily observed in a spasm; but when they can be, the test is a perfect one. Other authors qualify this opinion, stating that in the fit the motions of the iris are very slow, or altogether abolished. It is furthermore believed that these conditions of the iris cannot be simulated, and can arise only from disease. Here is the popular medical belief, echoed in the last works on diagnosis and recruiting, etc.

We ourselves are of opinion that when, in a fit, the pupils, largely dilated, remain impassive and motionless before a bright light, the case is almost certainly a real one. But, unfortunately, this state of things is of very rare occurrence, even in severe fits. The pupils unquestionably contract in the presence of a bright light in many such cases. Sometimes the movement is sluggish and slight, in others it is almost normal as to range and speed of movement. Soon after the first of these observations had been made, and we had begun to suspect the fallacy of the pupil test, we saw a case of well feigned epilepsy (detailed below), in which the patient had an indirect voluntary power to control the pupil by converging the visual axes in the effort to squint. The question then arose as to whether any indirect means existed by which a patient could cause the pupils to dilate. It certainly seemed as though the pupil were unusually large in some cases of feigned epilepsy. Few possess voluntary control over the pupil. Was it enlarged unconsciously in some indirect way? To answer these questions,

we ourselves imitated an epileptic fit. For this purpose we lay down, and were fastened with two broad girths which ran across the shoulders and over the waist, while the hands were so strapped to the bed as to give them some play. Exactly such means were used in our wards to control within safe limits the too violent actions of epileptics who we had not force enough to guard without these aids. The fits were simulated as closely as possible, while the members of the hospital staff, in turn, noted the phenomena.

It is needless to say that the fits thus produced would have been invaluable as clinical studies. We feel sure that they might have deceived the most acute physician. As regards the eyes, the following results were obtained: Holding the breath, so as to congest the face and head, causes no change in the pupil. Violent muscular motion instantly dilates the pupil; and so long as the movement continues, so long will the iris move slightly and sluggishly in the presence of bright lights. In some persons these effects are remarkable, but in general they are obvious enough. It seems, therefore, that the dilated pupil of convulsions may be due, in part at least, not to the cause of the convulsion, but to the spasms themselves. Malingeringers are always profuse in the exhibition of spasms, and how then are they to be detected? Their pupils will be dilated and sluggish like those of many epileptics, from the muscular spasms alone. In some cases of epilepsy, undoubtedly, the pupils are immovable, and we are not aware that a malingeringer can imitate this; but in a large number of real cases, and in all the feigned ones, the pupils will be precisely alike. Hence we conclude that in most cases the pupil test of feigned epilepsy is utterly worthless.

If, now, we be asked, How would you, then, detect a malingeringer? we would reply that it is often a very difficult thing to do, but we should look to the following tests: We should observe, first, the patient's face and mental condition, to see if they had been influenced as yet by the disease. Next we should obtain his personal character as nearly as possible, and all the particulars of the origin of his malady and of his general health, to see if there were any contradictions developed. We should observe where and how he was attacked by the fit. One of our patients, whom we had suspected, set our suspicions at rest when we learned that he had unquestionably had a fit in his *sleep*. We should then observe one or more of the attacks, and never should we decide without doing so. If we can discover any true signs of real consciousness or sensation, unquestionably the man must be a malingeringer. Hence if he grows worse when visitors are present; if he opens his eyes, evidently to see what is going on; if he does not fall off the bed when not held, but struggles sufficiently hard to do so when he is held; or if he exhibits pain, and not reflex movements, from irritants purposely applied, or from self-inflicted injuries, or if he should suddenly recover when severe measures are proposed in his hearing, we should class him as a malingeringer.

Perfectly immobile pupils, *especially in the absence of violent spasms*, we should regard as an evidence of real epilepsy, but only when they were thoroughly and carefully observed during the spasm itself, which is often impossible. A genuine epileptic usually will keep his hands open if they are forcibly unlocked, while a malingerer rarely does so. His face is pallid before, and flushed or intensely congested during the spasm, while the pallor again returns after the spasm is over; and he usually is sleepy, or falls asleep after the fit is over.

There remains for consideration the ether test of epilepsy, and this we believe to be original with us, and to have been used alone in our hospital wards. We should feel glad to see it tried by other surgeons, as occasions offer. The ether test has been only of late employed by us, and has been tested in eight cases of true epilepsy, during eighteen fits.

Ether has been used by us in two ways, or with two objects in view. We have given it to supposed epileptics who were having successive spasms, with intervals of rest. Now, when thoroughly given, ether will arrest the fits, but as the man revives he will often chance to have a fit while still so far anaesthetized as to make it incredible that he should have arranged the phenomena by will. Here everything will depend on the experience and skill of the observer. If he be sure that the new fit preceded the return of consciousness, it is a genuine case. It is well to add here, what was, we think, unknown, that in some persons who are liable to epilepsy the administration of ether will bring on a fit. We are aware that this is also the case as regards the use of alcohol, which in certain epileptics is sure to result in an attack.

The second form in which we use ether as a test is also, we believe, a novel one.

When ether is administered to a true epileptic case, its first effect is to increase the violence of the spasm, but eventually the patient passes into a deep ether sleep or coma, without any of the usual cerebral excitement. He does not talk or laugh, but goes directly from the state of convulsion into a profound comatose condition. The hyperæsthetic spinal system seems to respond alone to the stimulant power of the ether, while the cerebral centres do not, or at least the only effects which are outwardly expressed are those of spinal origin. When the same test is applied to a false case, the patient presents all the usual effects of ether, talking, laughing, and acting his dreamed delusions in the ordinary way.

When ether is used during the state of comatoid sleep which follows many fits, there is also an absence of all manifestations of excitement, and the sleep only becomes more intense.

It appears to us that the ether test, as proposed by us, is the most valuable and certain of all the means hitherto employed to unmask cases of feigned epilepsy.

The following cases will be found to illustrate many of the points discussed in the foregoing pages :

CASE.—W —, private, simulated epilepsy from dog-bite, and imitated the animal as far as possible. His fit was so poorly done that even the ward-master suspected him, and in a few days, his conscience smiting him, he confessed the cheat. We never saw an attack.

CASE.—*Feigned Epilepsy.*—Admitted, Nov. 18, 1863, J. W., æt. 17, native United States; enlisted June, 1863, Company H, Sixth P. V. Cavalry, a medium sized lad of healthy appearance. He gives the following account of himself: His family history presents two subjects of epilepsy besides himself, a sister and his mother, who died in a fit during child-birth. He remembers hearing it said that he had fits when a child, but knows nothing of them. The second occasion of paroxysms occurred on the day following his enlistment, without provocation of any kind, except possibly the excitement of entering the service. Since that time his attacks have recurred on Friday of each week with remarkable constancy, a constancy that seems unnatural, considering the vicissitudes of diet and transportation to which he has been subjected in changing from hospital to hospital, and which gives no evidence of a periodical cause either in history or symptoms. His expression of face also is an unusual one for an epileptic; there is none of the half narcotized look so common in this disease; his eyes are sharply set and bright, the features are mobile, expressive changes are rapid, and promptly follow the thought; there is evidently no obstruction between the will and muscle. To be watched.

Ward-master thinks the attacks genuine. Type violent, eyes strabismic, pupils contracted and unaffected by light. After the attack, complains of headache, and binds the head tightly with a handkerchief for several hours. His general health is, however, unaffected by the paroxysms, his appetite is good, functions regularly performed, sleeps well, and has his fits only in the ward.

The paroxysms were carefully observed by Dr. Keen, and thus noted: the prodromata usually consist of a great difficulty of breathing, which exists to a greater or less extent nearly all the time, but which is greatly exaggerated at the time of the paroxysm, so that his nostrils distend at each expiration, and he grasps his chest on both sides with his hands as if desiring to tear it open. This tightness, or constriction, is said to travel from the diaphragm up, and he can answer perfectly well, and indicate its location intelligently till it reaches his forehead, when he loses consciousness. The time of this progress varies from a few minutes to a couple of hours. Just before the attack the sensation he experiences is accompanied by a pricking sensation, as if knives were being stuck into him, and this is most common at the median line of the chest. Coincident with this sense of constriction the flexors of the left fingers begin to contract spasmodically, and universal trembling exists as though he was shivering from nervousness. Vertigo often precedes the fit. At the same time that he loses his con-

sciousness, his eyes are strabismic in the horizontal axis; the pupils are strongly contracted, and on being exposed to the light they vary in size very slightly, expanding and contracting, but still remain greatly contracted from the normal condition, in which the pupils are rather larger than usual, and quite sensitive to the action of light. The flexors of the fingers on both sides become tonically contracted so that it is impossible to open his fists. He champs with his teeth, and, unless prevented, often bites his tongue. The head is thrown strongly backwards with abnormal strength, and in a state of clonic spasm. He struggles considerably with his arms and legs, but not more on one side than on the other. Gradually he recovers his consciousness, his eyes become straight, all the symptoms ameliorate, and, with a more or less severe headache, the attack passes off.

During the visiting hour a paroxysm occurred, and he was subjected to the ether test. The fit was fully installed, general clonic convulsions had been repeated three or four times, the eyes were strabismic, head retroverted, and he was supposed to be unconscious. There was observed to be wanting during the interval between the paroxysms that alteration of deadly pallor and flush, that curious play of the blood over the unconscious features of the true epileptic which can hardly be simulated, and which points most instructively to the important position the organic nervous system may hold in the pathology of this obscure disease. The application of the ether to the nose was resisted by well directed efforts, but the stimulant soon began to show its effects: the tongue let out the thoughts, and the brain forgot to hold the eyes convergent, and then remembered it again with a sort of betrayed look most curious to see. The effect of ether on the true epileptic, if administered during unconsciousness, is, at first, to increase the strength and frequency of the paroxysms, and eventually, if persisted in, to produce complete relaxation with profound coma. He does not rouse from his unconsciousness and laugh and talk, but passes quietly, as far as cerebral manifestations are concerned, into the anæsthetic sleep. The hyperæsthetic spinal system seems to appreciate the primary stimulating effects of ether, while the cerebral centres do not, or, at least, the effect of the stimulant is only exposed through the spinal system.

Dec. 23. Just at this time he began to seek his discharge, both personally and through the Washington authorities, but being fully convinced now of his malingering, we denied the request, and decided to establish an issue by means of the actual cautery. This was mentioned purposely, in his hearing, to the ward-master in the tone of a stage "aside," and a few days afterwards was carried into effect when he was in a fit. His evident pain and efforts at evasion, had he been a genuine epileptic, might well have led us to do him injustice, but it is to be noted that even in a true epileptic, while the sensation of pain was abolished, the appreciation of irritants, as expressed through the reflex system

in reflex motion, still exists. In many genuine cases we have tried the actual cautery, pricking by a pin under the nail, tickling the feet, or pressure on hyperæsthetic parts, and they invariably endeavored to escape from the irritant. The expression—"escape from the irritant"—is to be noted, for they wince and shrink from it, while at the same time they do not endeavor to brush it away by co-ordinated muscular movements of other parts than those irritated. In other words the action is reflex, and not in any sense voluntary. In the same manner if, in the unconscious stage, even in those cases where the eyelids are wide open, the fist or finger is struck at them, without actually inflicting a blow, they will wink ordinarily. This is another indubitable evidence of the activity of the reflex system, which must always be taken into account in pronouncing a judgment as to the true nature of asserted epilepsy.

Some three or four days after this he had another attack, as if to test our determination to apply the cautery. We answered his demand by an immediate compliance. The fit having passed off, we applied the cautery without etherizing him, much to his disgust, and equally to his relief, for no further fits occurred. Soon after he declared that he had had several at home, when, of course, all passes were interdicted, as, evidently, the influences at home were more deleterious than those in the hospital. Even the men enjoyed a grim satisfaction in his detection, and whenever he threatened to have an attack, as he did several times, they would effect an immediate cure by calling loudly, "Martin, is that iron hot?" About ten days later, when the ulcer resulting from the cauterization was nearly healed, he brought matters to a head by demanding whether we thought he was "playing off." He was assured with some warmth that we did, and was immediately confined in the guard house for a week, and then sent to his regiment. To make the case complete, his parents, although he stated that his mother was dead, offered to prove that he had had epilepsy from childhood, and protested loudly against our injustice; but when requested to adduce affidavits from a physician to that effect, they proceeded to the private residence of the surgeon in charge, and offered a bribe of fifty dollars for his discharge. His subsequent history we know nothing of, but we were careful to inform both the provost marshal and the surgeon of his regiment of his malingering. It is probably too much to hope that he ever did any duty.

CASE.—L—, May 8, 1864. Having watched for the chance for over a week constantly, it at last came. The fit was freely inaugurated with a champing of the jaws, and violent struggles, especially in throwing his head back on the bed. In a previous fit in the guard house he was exceedingly careful to throw his head back only on the blanket, and his efforts manifestly declined the moment he had struggled on to the floor.

The ether was administered carefully, giving considerable air with it, so that he should not be too suddenly etherized, as he was breathing deeply and hurriedly from the great previous physical

exertion. After a few inspirations the paroxysms, which had recommenced the moment the ether was applied, lost their purposive character, and became violent struggles to tear the sponge away from his face, at the same time spasmotic deglutition and puffing respiration occurred, and in a few moments he began to cry out, and to laugh. The ether was then stopped, and he began to exclaim, "Faster, faster!" Presently some one said, "It is played out." He echoed, "pl-pl-played-play-ay-ay-ayed out-to-out-out-out." At this time the surgeon left him, and as he came to thoroughly, he asked where the d— Dr. Keen came from, for he had supposed him absent from the hospital. He was sent to the guard house immediately, and returned to duty the next morning, with a note on his descriptive list, to the effect that he was a complete and remarkably good malingerer.

CASE.—*Genuine Epilepsy.*—Jas. Cyphers, April 29, 1864, 7.30 P. M. The attack was in full progress, eyes upturned, pupils dilated, hyperesthesia excessive, so that pressure on any part of the trunk, at least anteriorly, instantly produced a severe spasm. He had already had five paroxysms when the ether was applied immediately afterwards, while his respiration was deep and hurried. He had, after a few inspirations, another slight attack, throwing his head backwards and forwards but two or three times. After a few more inspirations he had another, which was rather a slight twitching, and then he passed quietly and speedily into coma, without any efforts to avoid the ether sponge, or without any manifestation of cerebral excitement. As soon as he was completely relaxed, pressure at any part was borne without the slightest wincing or attempted spasm. In the ordinary length of time he regained consciousness, with nausea, which soon passed off. On recovery, he had a good deal of mental excitement, "felt as if he had been very drunk, etc." The hyperesthesia was absent, and the paroxysms did not recur at this time. Undoubtedly a true case.

CASE.—*True Epilepsy—Use of Ether.*—Gaskill, April, 29, 1864. After suffering greatly with the pain in his side, for, say, three-quarters of an hour, he passed into a paroxysm; after the fifth the ether was applied. He had a slight jerking of the shoulders, the usual immediate prodromata of a fit, but they speedily subsided, and he passed into the state of coma without the slightest sign of mental excitement, nor did he attempt to evade the sponge, nor make any attempt at deglutition. After awaking, as usual, he had the ordinary signs of etherization in the mental wandering and hilarity so common, but it was very short. He had no more paroxysms, nor any further pain, which usually follows the attack for half an hour to an hour.

May 2, 1864. Etherized him again. The attack came on without the usual precedent pain. It had ended, and he was conscious when the ether was used. After a few inhalations he had a regu-

lar paroxysm with all the ordinary phenomena. The attack was brief and mild, and he passed at once into coma. There was no attempt to evade the sponge, nor was there any cerebral excitement. On arousing, soon after, he had slight mental excitement, but no pain until fifteen minutes had elapsed.

May 5, 1864. He was etherized four times; once after an epileptic fit, and thrice for severe cramps; he was perfectly conscious each time; he passed, as before, into total coma, with precedent cerebral manifestations, and with spasmodic deglutition. The cerebral excitement was very slight, and the subsequent stage of exhilaration very short.

CASE—Henry Hardmeyer, April 4, 1864. The attack had existed for ten or fifteen minutes, and several paroxysms had occurred when the ether was applied. He immediately struggled violently, throwing his head from side to side. This seemed to be an attempt to avoid the ether, but it is to be observed that this is a phenomenon ordinarily attending his paroxysms. He made no effort to brush the sponge away, and no efforts at deglutition, but struggled violently in every limb. His respiration was, however, so hurried and deep that he speedily passed into a state of coma. There was at no time the least cerebral excitement, no shouting or calling on others, as he was wont to do, even in the ordinary paroxysms, but he quickly lay quietly relaxed in every muscle, breathing gently and naturally. He awoke soon after, quite conscious and excited, offering to shake hands with every one. In a few moments the spasms returned with unabated violence.

CASE.—Stahl, May 2, 1854. Several paroxysms had occurred, and when he was semi-conscious, as he usually is between the fits, the ether was applied; he was not breathing hurriedly; he passed, however, very quickly into coma without any stage of cerebral excitement whatever, and even without any accession of muscular excitement, either epileptic, or as an effect of the ether. No effort was made to resist the ether, nor was there any of that choking and attempted deglutition usually seen in administering ether. He speedily recovered from the ether, and passed quickly into another paroxysm of the same character and intensity as before.

CASE.—Ridley. The attack was in progress, and he had two paroxysms; the reflex system was still active, as sticking him under the nail with a needle caused the jerking away of the hand; he winked if struck at, or if the conjugativa was touched. The ether was given while he was not breathing very heavily; he did not try to resist or escape it, nor did he make any vain attempt to swallow, but passed without cerebral manifestations into complete coma, preceded, however, by two short and imperfect epileptic attacks. So soon as he awoke he passed almost immediately into two other attacks, evidently before regaining full consciousness. These threatened to continue, and the ether was given him again,

when, without struggles or mental excitement, he became comatose a second time. He then awakened in a very short time, and in this he resembled other epileptics in whom the recovery from the coma, and the supervention of delirium is very rapid. The usual subsequent pain in the left chest, and the hysterical choking, did not appear until half an hour later, and were then slight and brief, contrary to what he had usually experienced.

May, 6, 1864. Etherized him again while in the fit; he became comatose without mental excitement; spasmodic deglutition was present, but he did not seek to evade or thrust away the sponge. It is to be observed that the globus hystericus is usually a marked symptom, both during the fit and subsequently. No subsequent pain or globus hystericus appeared, but a short cramp occurred.

CASE.—Marsh. The fit, which was very mild, so far as the muscular spasms are concerned, was in full progress, and had continued for about half an hour, when the ether was administered. He endeavored to avoid the ether, not only by movement of the head, but also by seizing the ether sponge, and thrusting it from his mouth, with his right hand. He passed, however, directly from the stage of epileptic unconsciousness without spasmodic deglutition into anaesthetic coma, perfectly relaxed and quiet, without the least cerebral excitement, and remained in this state for nearly three quarters of an hour, when, without the slightest interval of consciousness, the usual prodromata returned, especially the twitching of the flexors. At first very slight, the spasms increased in force gradually until the attack developed itself in full force. The interval between the two paroxysms was much increased by the ether. After repeated attacks during forty-five minutes he became semi-conscious, and finally fell asleep, and slept until next morning, when he still complained of drowsiness.

In concluding this paper, which has been written among other and excessive professional labors, we desire to state that it is not meant to be a complete treatise on malingering. We have desired principally to tell what we ourselves have witnessed, to present to the army surgeon new tests, and to criticise the statements of others in the light of opportunities such as have been rarely presented.

Placenta Prævia.

Dr. Robt. Greenhalgh read a paper on this subject before the Obstetrical Society of London, July 6, 1864. The author first alluded to the large mortality both to mothers and children (one in four and a quarter of the latter), which he attributed mainly to the severe and repeated losses of blood, to the delay in effecting the delivery, and the method of turning usually had recourse to in these cases. He then gave the details of twenty-four cases which had occurred in his own private and consulting practice between the

years 1842 and 1864. He placed before the society several statistical tables, chiefly taken from Dr. Read's work, to show, in addition to other facts, that the expulsion of the child generally takes place before the full period of utero-gestation—premature labor being the rule and not the exception; that nature, unaided, frequently terminates the delivery with safety both to mother and child; that complete and partial artificial separation of the placenta before the birth of the child has failed in numerous cases to arrest the hemorrhage; and that these methods and turning had proved most unsatisfactory in their results. Having dwelt at some length upon these several points, he strongly advocated a close observance of the way in which nature terminates these cases with safety to mother and child. Having specified the result of his observations on that head, he confidently recommended the following plan of treatment, which had proved, as far as the limited number of cases could prove, in his hands and in those of others, far more successful, both to mothers and children, than any other method hitherto devised. It was as follows: 1st. That in any case of hemorrhage, whether profuse or otherwise, occurring after the commencement of the seventh month of utero-gestation, ascertained to be due to placenta *prævia*, artificial premature labour should be induced at once, or as soon as the condition of the patient will admit of it. 2dly, That in order to effect that end without loss of blood, an air ball, covered with spongio-piline, be passed collapsed, into the vagina, and then inflated so as effectually to fill that canal, while a bandage is placed firmly round the abdomen; at the same time the ergot of rye and borax are to be administered in repeated doses. He further recommended as aids, stimulating enamata, with tincture of *nux vomica*, galvanism, and friction over the abdomen. The author concluded by condemning, in the strongest terms, the use of general hygienic means and haemostatic remedies over days and weeks in these cases, which course, he was firmly convinced, was the cause of many valuable lives being lost.

Dr. Barnes observed, that agreeing generally in the principle that labour should be brought on in cases of severe hemorrhage from placenta *prævia*, a principle, he believed commonly acted upon in London—he could not assent to much of Dr. Greenhalgh's reasoning, or concur in approving his plug. His statistical reasoning was open to criticism. He assumed two postulates: first, that the mortality in placenta *prævia* was 1 in $4\frac{1}{4}$; secondly, that the mortality from inducing premature labour was one in 53; and he drew the extraordinary conclusion that by always inducing labour we might substitute the low mortality of premature labour induced under selected circumstances for the assumed heavy mortality of 1 in $4\frac{1}{4}$. Now both the postulates were false, and the conclusion was manifestly illogical. The mortality of 1 in $4\frac{1}{4}$ drawn from Dr. Read's tables was a most unfair representation of the results of modern obstetricity. He (Dr. Barnes) had analyzed his own cases. Since the publication of his Lettsomian Lectures 59 cases had come under his own observation; and he drew 24 from other sources, most of these last being treated

upon his (Dr. Barnes's) principles. The deaths were six only, or 1 in 14. And if he were to follow Dr. Greenhalgh in striking out the fatal cases on the ground that treatment was too late, he might show statistical results very far superior. He should have not 10 successful cases, but 77. Two of his cases died of pyæmia, having been treated by forced delivery—that is, in direct opposition to his principles; two were moribund when seen, and two were hopelessly anaemic. He had taken all cases as they occurred in his books without selection or arrangement, yet 26 cases fell as an uninterrupted series of recoveries, which he might fairly place against Dr. Greenhalgh's selected ten. Then as to the mortality in premature labour. Premature labour was induced under selected circumstances to avoid dangerous complications. Such cases were not to be compared with labours forced upon us by the flooding of placenta prævia. This Dr. Greenhalgh disregarded. But surely placenta prævia went for something. Then the children. Dr. Greenhalgh had been fortunate. In his small series of ten cases he had eight living children. He (Dr. Barnes) ventured to say that a larger experience would modify this result. Many dangers surrounded the child in placenta prævia; cross-births, funis presentations, immaturity and asphyxia in utero; some were born putrid. His (Dr. Barnes's) plan was eminently adapted to secure the child. But his mortality was 63. The very method of Dr. Greenhalgh of bringing on premature labor must of itself often destroy the child, for the floodings would come on at six and seven months. And in some cases flooding did not occur until the end of gestation. These were often the most dangerous. Yet here Dr. Greenhalgh's plan was not available. And what was Dr. Greenhalgh's plan? The use of a *vaginal* plug, not differing essentially from the colpeurynter of Braun. It acted like all other vaginal plugs by exciting uterine contraction, if the uterus was exitable. But, unfortunately, in the worst cases the uterus was paralyzed. In these, where art was most necessary, the plug was useless. He was surprised to hear Dr. Greenhalgh undervalue rupturing the membranes. This simple method was in many cases quite sufficient, and no method was long serviceable without it. If, in combination with rupturing the membranes, the placenta was detached from the cervical zone, so freeing the cervix, the cervix then artificially expanded by his *cervical* dilators, and the bimanual method of turning resorted to, he was confident from large experience, that a greater measure of success would be obtained than by any other especial method. He took that opportunity of stating that the first published case of the use of the intra-uterine dilator in placenta prævia which attracted his attention belonged to Mr. Jardine Murray, of Brighton.—*Lancet*, Aug. 6, 1864.

A New Mode of Treatment of Vesico-Vaginal Fistula.—Dr. Alfred Meadows, in a paper read before the Obstetrical Society of London (May 4, 1864), contended that the usual practice of keeping the patient in bed for two or three weeks after the operation for the cure of vesico-

vaginal fistula is unnecessary, and that, on the contrary, she may be allowed with perfect safety to go about as usual immediately after the operation. The author showed that the reason given for the former practice, viz., that the parts should be kept quiet, is as fully attended to in the plan suggested as in that usually followed, because the movements of the body do not interfere with the quietude of that particular portion of the floor of the bladder where the fistula existed, there being no muscles in this region which can by their attachments prejudicially affect the part in question. With regard to the second consideration—that the urine should be kept from the surface of the fistula, either by the constant employment of the catheter or by its frequent use—the author exposed the fallacy of this argument by briefly reviewing the circumstances which exist after every operation of this kind. At first the bladder is quite empty, but, as urine gradually flows into it, the organ becomes slowly distended; and the very fact of this distension taking place by the uniform pressure of the urine, proves that contact of that fluid with every part of the bladder-wall cannot be avoided: no position of the patient can prevent it, and consequently the recumbent posture is not needed on this account, nor is the use of the catheter of any service. Two cases were detailed in which the plan here suggested by the author had been carried out with perfect success. In one, where the chloroform was not administered, the patient went about immediately after the operation, and followed her usual avocations. In the other case the patient had chloroform, and on this account chiefly she kept in bed that day; but the next day she was allowed to go out, and her cure was equally complete. In both cases the opening was large enough to admit the finger easily; and in one of them it was situated far in the vagina. The author recommended the use of many sutures, merely twisting them, and without either clamp or shot; he also advised that they should be allowed to remain some time to secure firm union, their presence occasioning no inconvenience. One of the cases cited was further remarkable, inasmuch as by the process of sloughing which had previously taken place no trace of the uterus could anywhere be discovered, and the patient has continued for some time past to menstruate through the bladder.

Successful Primary Amputation at the Hip-Joint.

Mr. James Spence records (*Edinburgh Medical Journal*, July, 1864) the following very interesting case of this:

"On the 3d of September, 1863, Robert Davidson, aged 12 years, was thrown from a truck which had been suddenly set in motion, and fell in front of it, both wheels passing obliquely over the upper part of the left thigh just below the pelvis. The accident happened at the Melrose station, and the boy was seen almost immediately by Dr. Clarkson, who adjusted the limb, and had him conveyed to his home at Newstead, about a mile distant. About two hours after-

wards, Drs. Brown and Smith accompanied Dr. Clarkson to see the case. The boy had recovered in a great measure from the shock, but his pulse was still very weak. On examination, there was found a large contused flesh wound at the upper and inner part of the left thigh, exposing the muscles, which were much torn and bruised, and allowing the finger to be passed deeply into the tissues of the limb. The femur at and below the trochanters was felt to be much shattered. The foot was cold, and pulsation in the popliteal and tibial arteries extremely weak, but there had been no great amount of blood lost.

"As it appeared to the medical attendants that the boy's only chance of life was removal of the limb by amputation at the hip-joint, I was telegraphed for, and arrived at the patient's house about 9 P. M. On examination of the injury, the contused and lacerated state of the soft parts, the shattered condition of the femur, and the consideration of the great force by which the injury had been caused, left no doubt as to the practice to be pursued. I at once coincided in the opinion which his medical attendants had expressed, although, from the depressed state of the young patient, and the proximity of the injury to the trunk, the chances of success seemed very small.

"The boy's parents having given their consent, I proceeded to perform the operation under circumstances not the most favorable. The room was small, and the only light procurable was from a small lamp on the mantelpiece, and two small candles held by a non-professional assistant; a wax taper I had brought with me was kept in reserve for exigencies. I had brought Lister's abdominal compressor, but as it could not be applied so as to command thoroughly the circulation, Dr. Smith took charge of compressing the common femoral on the brim of the pelvis, and I instructed one of the patient's friends how to command the bleeding from the posterior flap, by grasping it with one hand and pressing a large sponge upon its surface. Dr. Brown took charge of the movements of the limb, whilst Dr. Clarkson administered the chloroform. When the boy was brought under its influence, I entered my knife between the trochanter major and the anterior superior spine of the ilium, and carrying it obliquely across the thigh, brought the point out a little above the tuberosity of the ischium, cutting a short anterior flap. Dr. Brown then rotated and depressed the limb, with the view of facilitating disarticulation; but owing to the shattered state of the femur, this movement did not produce the desired effect. Fortunately, however, this caused no great delay, for my knife had opened the joint in passing across the limb; and by grasping the upper broken fragment of the bone, so as to project the head, I completed the disarticulation, and cut as large a posterior flap as I could obtain from the uninjured parts. Some vessels on the posterior flap were first secured, and then the great vessels in the anterior flap, the vein being included in a ligature. I then removed some contused and doubtful-looking portions of muscle. After all bleeding had been arrested, the flaps were brought together with sutures; and, considering the nature of the parts from which the flaps

were formed, they fitted tolerably well. The stump was then dressed, and the patient placed in bed, hot bottles applied, and some stimulus given, as he was very weak. He lost very little blood during the operation, as I ascertained by carefully collecting the blood from the stone floor, when it was found to amount to less than half a small tea-cupful; and altogether, with what was in the sponges, to about five ounces at most. After waiting till the little patient had completely rallied from the chloroform, and had got an opiate administered, I left him in the charge of Dr. Smith, who remained with him all night, and to whom I am indebted for the following report of the progress of the case:

"Examination of Limb after Removal.—On examination of the limb after removal, the femur, from the large trochanter downwards for about two inches, was found to be broken into numerous fragments, the ragged edges of which were imbedded in the surrounding soft parts. The muscles and other structures were much bruised and torn, but there was no direct injury to the large vessels or nerves.

"4th September. During the night, patient was very restless and delirious; pulse 134, weak. A little brandy and water was administered at intervals, but was vomited. No reactionary hemorrhage of any consequence. *Vespere.* Still restless, with delirium; pulse 130. To have opiate with a few drops tinct. mur. ferr.

"5th. Restless night; pulse 130, very weak and thready; sunken aspect of countenance. Beef-tea, brandy, and milk given in small quantities frequently.

"6th. Rather better; slept a little; less delirium; pulse 108, stronger; wound has healthy appearance, except at the bruised part of the flap, which looks sloughy.

"7th. Pulse 108; sloughing action extending slightly on posterior flap; fetid sero-purulent discharge. Chloride of soda lotion; opiate.

"8th. Pulse 90; no delirium; line of demarcation formed, showing slough, rather exceeding a square inch in extent; purulent discharge copious, and less fetid.

"9th. All the stitches removed, and the flaps brought together as well as possible by strips of plaster. Pulse 100.

"12th. Sloughs separated; an attack of diarrhoea; slight delirium. Opiate.

"14th. Pulse 108; diarrhoea less; stump looking healthy. Diet for the most part milk, beef-tea, wine, with a little brandy.

"16th. Doing well.

"20th. Pulse has risen to 120; had a restless night with delirium; raw surface of stump covered with patches of whitish semi-translucent membrane of pretty tough consistence; copious purulent discharge. Stimulants given in increased quantity.*

"21st. Pulse 120; occasional delirium; wound has same appearance.

* "Dr. Brown informs me that diphtheria was prevailing in the district at the time."

"23d. Pulse 118; wound has less of its diphtheritic-looking covering.

"27th. Stump looks healthy, and is cicatrizing round the edges. Dressed with sulphate of zinc lotion. Pulse still high, 116; sleeps well; appetite indifferent.

"1st October. Pulse 110; doing well.

"4th. Pulse 102.

"From this time recovery was slow but uninterrupted. The patient gained strength gradually, with the aid of tonics, wine, etc. The femoral ligature did not fall off till 4th November, two months after the operation, having evidently been retained for some time after its separation from the vessel by the granulations surrounding it. By the middle of December the stump was healed, with the exception of a mere spot. Two or three weeks later this also had closed, and the patient was able to move about with the aid of crutches."

Origin, Structure, and Mode of Development of Multilocular Cysts of the Ovaries

Dr. WM. FOX read a communication on this subject before the Royal Medical and Chirurgical Society (June 28). The first division of the paper consists of a *résumé* of the views heretofore held with regard to the origin of these cysts. The author considers that the opinions hitherto expressed on this point may be divided into two chief classes. 1. Those which attribute the cysts of the ovary either to morbidly affected Graafian vesicles, or to secondary formations from these structures. 2. Those which ascribe the multilocular forms to a morbid process arising in the stroma of the ovary, independently of the Graafian vesicles. Under the second category there is a great variety and discrepancy of opinions. With regard to the former, it has long been doubted whether the number of the Graafian follicles normally existing in the ovary is sufficient to account for the whole of the cysts sometimes found in these tumors; while the proof of any fresh formation of Graafian vesicles taking place in the adult has hitherto been of a very dubious kind, nor has any account been furnished of the mode in which secondary cyst formations proceed from them. The author has studied these conditions in fifteen of the so-called 'colloid cysts' of the ovary, for the opportunities of examining most of which he has been indebted to the kindness of Mr. SPENCER WELLS. He believes that all primary cysts of the ovary originate in the destruction of the ovum and subsequent accumulations of fluid in the follicle, the membrana granulosa acting as a secreting structure. From these cysts secondary cysts may originate in various ways, all of which, however, may be referred to one common type. Class A.—Cysts give off long tabular processes, lined by an epithelium similar to that of the cyst whence they spring; one cyst may give off two or three such processes at various parts of its

circumference. These undergo constrictions in their course, and thus form secondary cysts. These processes and the cysts from which they spring are most easily found in the more dense parts of the stroma. Class B.—Thin-walled cysts give off diverticula analogous to those by which the lungs, the thyroid, and some other glandular organs, both of the *gusto pulmonary* and genito-urinary system, originate in the embryo. These diverticula, when open by a narrow neck into the cavity of the parent cyst, expand as large pouches on its external surface, protruding into other and adjacent cysts. The neck may either expand into a large opening or may become constricted, in which latter case the original communication is destroyed. One cyst may, in this manner, give off numerous diverticula. These varieties (A and B) usually coexist in different parts of the same tumor. They were found by the author in three out of fifteen tumors examined by him. They give rise to very compound structures, but not to the dense masses to which the names of "alveolar degeneration," "cystoid disease," and "adenoid tumors" of the ovary have been given. This variety (or Class C) results from the formation, on the inner surface of the cyst wall, of a series of tubular glands, analogous to those of the uterus, or the crypts of Lieberkühn, or the glands of the stomach. They are formed by the (1) epithelium lining, the parent cyst becoming stratified, and in its superficial layers assuming a columnar character. (2) Into this stratified epithelium, papillæ formed of connective tissue spring from the stroma of the ovary, in each of which a loop of vessels is formed. A series of densely-clustered villi is thus produced, which are converted into tubular glands by the growth upwards around these bases of the stroma of the ovary. The glands may become compound at their bases by secondary villi arising in them. They may be converted into simple cysts by the closure of their orifices; but more commonly the upward growth of the stroma surpasses that of the villi in which their summits end, and the glands become completely shut off and inclosed in the stroma, forming groups of a very compound form, of tubular structure, lined by a secreting epithelium imbeded in the wall of the parent cyst. When distended by further secretion they form the smaller and larger multilocular cysts scattered on the inner wall of the parent cyst. Other modes of cyst formation resulting in dense cystoid masses were traced by the author to these structures. Class D refers to the cyst found in the cauliflower papillary or dendritic growths which spring from the interior of parent cysts. These growths originate in a number of delicate papillæ growing from a common basis, and uniting to form larger masses. They consist of a delicate stroma, derived from that of a parent cyst-wall, a loop of vessels, and a covering of epithelium. The irregularity of their growth causes spaces to be inclosed by them, lined by a secreting epithelium, and which, when completely shut off, become cysts. Various illustrations were given of this process. The author considers that in no case are the secondary cysts in the cauliflower growths of the ovary derived from single epithelium cells. The author then re-

ferred to the observations of Dr. Pflüger and Billroth on the origin of the Graafian follicles from tubular structures found in the embryonic condition of the ovary; and though not fully able to corroborate all Dr. Pflüger's views from his own observations, he has convinced himself that the Graafian follicles originate in tubular structures. He regards these cysts as resulting from a renewal in the adult of the early mode of development of the Graafian vesicle with various morbid abberations from the type of embryonic growth, and thinks they must therefore be placed in the same category with other cystic tumors growing in structures having tubular glands and ducts, especially with those of the mamma, testicle, and thyroid gland. He regards the cysts mentioned under Class D as presenting essentially the same type, inasmuch as the large papillary and cauliflower masses can only be regarded, similarly to the Haversian fringes of synovial membranes, as everted glandular structures. He has not had any opportunities of examining any multilocular cysts of the ovary containing dermoid structures; but, inasmuch as these have been shown to contain both normal hair follicles and sebaceous and sudoriparous glands—all of which structures are the frequent seat of cyst formations—he believes that they will be proved to follow the same laws of growth as the colloid cysts. The author, from chemical examinations of the fluid contents of the cysts, has been led to regard the so-called colloid matter found in them, as the result of alterations depending on the varying conditions of pressure under which they are secreted from the inner surface; and he believes that this matter cannot be considered as the result of any special form of degeneration of the tissue of the ovary. The method which the author has pursued in studying the development of the cysts of the Classes of A C D has been to make sections in the recent state with a Valentine's knife through the various parts of the stroma. The glands of Class C are best displayed by sections made vertically to the inner surface of the cyst-wall. Observations on Classes C and D are much facilitated by hardening the tissues in chromic acid solution of 2 per cent., and subsequently treating sections made by a sharp razor with liquor of soda and glycerine.—*Med. Times and Gaz.*, July 30, 1864.

THE EFFICACY OF PHOSPHATE OF LIME IN PERIOSTITIS.—The *Journal de Chimie Médicale* relates two cases of ostetis, attended with intense pain, in which Professor Piorry resorted with much benefit to the exhibition of phosphate of lime. In one patient the tibia and humerus were the seat of a circumscribed tumefaction and severe nocturnal pain. On superficial examination the osseous structures seemed to have preserved their natural consistency, but plessimetric percussion of the affected parts betrayed a loss of elasticity,

and an increased sonorousness of the bones. The precedents of the case being of a nature to indicate the presence of the syphilitic taint in the system, the professor prescribed half a grain of protoiodide of mercury night and morning, fifteen grains of iodide of potassium three times a day, and the application of anodyne poultices. This treatment was steadily persevered in for three weeks, but the pain continued with unabated violence, when M. Piorry, taking into account the swollen and softened condition of the bones, conceived that a couple of drachms of phosphate of lime exhibited daily, concomitantly with the iodide of mercury, might possibly prove advantageous. This treatment was therefore instituted, and the issue of the case justified the professor's surmise. In the course of forty-eight hours the osteocopes had much decreased, and disappeared altogether after an interval of a week. The patient being at the same time an anaemic subject, with a small heart, contracted liver, and a weak pulse, which failed when the arm was kept in a raised attitude, tonics and a generous diet were likewise resorted to.

The second patient complained of excrutiating pains in the left temporal region, which were at first attributed to neuralgia of the fifth pair of nerves, and treated accordingly, but without benefit, by the application of blisters dressed with morphia, and belladonna and opium internally. On closer inspection, M. Piorry discovered, on parting the hair, which was very thick and concealed for a time the true nature of the case, a considerable periosteal tumor at the base of the parietal bone. In this instance, also, the plessimeter revealed more sonorousness and less elasticity than on the opposite side of the head. The patient, however, contended, and nothing in her previous history disproved her affirmation, that she had never been affected with any symptom of venereal disease. A drachm of phosphate of lime was exhibited night and morning, and the pains decreased in the course of four days, and in a short time a cure was effected.

In both these cases, the reader will observe that the plessimeter was used to discover the softening of the bony structures, and that in the patient whose previous history pointed to syphilis, the use of the calcareous phosphate was in nowise incompatible with the administration of mercurial preparations. We may further add, with the editor of the *Journal de Chimie Médicale*, that the appropriate salt of lime is the combination obtained by the precipitation by ammonia of a solution of the phosphate in muriatic acid; the deposit should be carefully washed, and preserved in a humid condition.—*Dublin Med. Press*, Feb. 24, 1864, from *Jour. de Méd. et Chir.*

INFLUENCE OF A LONG COURSE OF NITRIC ACID IN REDUCING THE ENLARGEMENT OF THE LIVER AND SPLEEN THAT SOMETIMES RESULTS FROM THE SYPHILITIC CACHEXY.—The enlargement which Dr. Budd refers to, is that which has been latterly de-

scribed as due to amyloid degeneration. The most striking examples of it are seen in the victims of scrofulous or syphilitic caries. Three cases are related in which mxx of dilute nitric acid were taken ter die for a period varying from fifteen to four months, without inducing excessive acidity of the urine or any inconvenience attributable to undue acidity of the stomach. Sarsaparilla, iron, or bark, were conjoined with the acid. The result of his experience leads Budd to conclude that when the liver and spleen have become diseased in the manner specified, in sequel to protracted syphilitic disease of the bones, nitric acid, long taken, has a remarkable influence in gradually effecting the removal of the morbid deposit to which these organs owe their increased size, restoring the organs to a more healthy condition, and improving the general health. The cases further afford a strong presumption that nitric acid, taken earlier, would prevent the disease of the abdominal glands, which, when established, it tends to remedy. It is, however, essential that the disease of the bone, on which the enlargement of the liver and spleen is consequent, should be arrested; if this cannot be effected, the malady, though even then its course may be retarded, usually makes progress, and life is cut short by renal disease, which very often accompanies that of the liver and spleen. Budd suggests that a long course of nitric acid may have influence in remedying and preventing glandular enlargements, chronic ulcers, and other forms of scrofulous disease. He is persuaded that in tuberculous disease of the lung, nitro-muriatic acid, long taken, tends to prevent the further deposit of tubercle.—*Sydenham Society's Year-Book.* 1863, from *Brit. Med. Journ.*

Subcutaneous Injections in Ophthalmic Surgery.

Prof. Von Graefe lately delivered a series of clinical lectures on the employment of subcutaneous injections in ophthalmic surgery, of which we propose to give a brief abstract. His experiments have been only made with the acetate of morphia and the sulphate of atropia. The most favorable situation for making the injections is the middle of the temporal region, and it is this which the Professor chooses under all circumstances, unless there be some special indication, such as neuralgia or spasmodic phenomena, which makes it probable that some other point may be preferable. The integument should be well raised from the subjacent parts, the canula should be pushed into the cellular tissue, and the skin should be closely applied around the canula, so as to prevent the return of the liquid injected. The quantity of acetate of morphia employed in Graefe's experiments varied from the tenth of a grain to half a grain, a fifth or sixth of a grain being the usual quantity. The solution contained four grains of the acetate in a drachm of distilled water; it should be neuter, or very feebly acid. The physiological action is the same as when morphia is taken into

the stomach, but in general it is better marked, and consequently the amount injected ought to be smaller by about a third than the quantity which would be administered internally. The action on the iris is interesting. Often at the end of a minute, sometimes not for half an hour, the special contraction of the iris (*opium-myosis*) manifests itself. This contraction is best observed by comparing the dimension of the pupils with a moderate light. The degree and the duration of the myosis vary remarkably; in a large number of cases it remains well marked for several hours, and disappears slowly. Sometimes, in very irritable persons, spasm of the muscle of accommodation of the iris takes place; when this phenomenon occurs, it is at an advanced period, at the end of the stage of irritation. The most important therapeutical indications of subcutaneous injections of morphia are, according to Graefe, the following: 1. In the case of traumatic injuries which have involved the eyeball, soon after their occurrence, and when there is severe pain; for instance, after the penetration of foreign bodies, superficial burns or wounds, the pain is more speedily allayed by the subcutaneous injection of morphia than by the instillation of solution of atropine between the eyelids. Professor Graefe is opposed to the application of leeches after the extraction of foreign bodies, after contusions, and after penetrating wounds; he looks upon them as more likely to produce than to prevent inflammation and suppuration. 2d. After operations on the eye, when they are followed within a short time by intense pain. 3. In the neuralgia of the ciliary nerves which accompanies iritis, glaucomatous choroiditis, and several forms of inflammation of the cornea. 4. As an antidote for poisoning by atropine, an action which was pointed out by Mr. Benjamin Bell in 1857. 5. In neuralgic affections of the terminal branches of the fifth pair in the frontal region, not dependent on an affection of the eye. 6. In different forms of reflex spasms, such as spasm of the eyelids in traumatic keratitis, and spasmodic contraction in the course of the facial nerve.

In the case of injections of atropia, the greatest prudence is necessary. In some persons the sixtieth of a grain is sufficient to give rise to general symptoms. In general, the first dose injected should not exceed that quantity; it may afterwards be gradually increased to the twentieth of a grain. According to Professor Graefe, the occasions for the employment of atropia in injections are very limited; and to produce the mydriatic effect, the form of instillation is preferable. Even when a full quantity is injected, the dilation of the pupils is moderate, and the power of accommodation of the iris is not superseded, whilst the desired effect is obtained by much smaller doses introduced between the eyelids. In neuralgia, injections of atropia do no good, in spasmodic affections their effect is very doubtful; so that their employment seems to be limited to cases in which the conjunctiva would not tolerate the presence of the atropia.—*Edinburgh Medical Journal*, July, 1864, from *Bull. Gén. de Thérap.*

Spondylolisthesis; with an Account of a Case of Pelvic Contraction, in which Premature Labor was induced by the Author's Method.

Dr. Robert Barnes read before the Obstetrical Society of London (April 6, 1864) a memoir embracing a history of the literature of this affection and a summary of the cases hitherto recorded. It was first described in 1853, by Kilian, who defined it as a slipping downwards and forwards of the last lumbar vertebra upon the sacrum, so that one or more of the lumbar vertebrae fell into the cavity of the pelvis, encroaching upon the space required in labor. In several cases the Cæsarean section had been necessary in order to deliver. The author added a case in which he believed this form of distortion was the cause of difficult labor. A woman, previously healthy, had been injured in the back. Considerable contraction of the pelvic brim followed. There was a marked depression in the lumbar region, and a projection internally above the promontory of the sacrum. Dr. Barnes brought on labor by this method at about the eighth month. The child was extracted by turning with some difficulty, still-born. The entire labor occupied less than five hours. The mother recovered. The remainder of the memoir was devoted to the discussion of the causes of the deformity, concerning which very conflicting views were entertained in Germany.

Mr. W. Adams observed that he had listened to the paper with great interest, as the vertebral deformity or displacement described was but little known, and required further investigation. It seemed to him that the condition described as spondylolisthesis might depend upon several causes. Rickets might give rise to it; but this would be at once apparent by the general evidences of rickets in the development of the skeleton, distortion of the legs, etc. Caries of the first sacral bone might give rise to it; and some years after destructive disease had ceased, and ankylosis produced, the prominence forward of the last lumbar vertebra might encroach considerably on the pelvic cavity. Mr. Adams had seen a few examples of this, and had one now under his care at the Orthopaedic Hospital. In this case the girl presented extreme lordosis in the lumbar region, with corresponding projection of the stomach, and a sharp posterior angular prominence corresponding to the first and second sacral bones. In all probability this girl, now twenty-one years of age, could never have a living child, in consequence of the projection of the last lumbar vertebra into the pelvic cavity. Congenital dislocation of both hip-joints produces extreme lordosis in the lumbar region, and, therefore, would probably give rise to the condition described as spondylolisthesis; and Mr. Adams had also seen it produced to some extent by a sharp rotation movement, and lateral distortion affecting the lower lumbar vertebrae, as in a case described by him in the *Medico-Chirurgical Transactions*, vol. xxxvii. It was evident that a variety of causes might produce the vertebral displacement mentioned by Dr. Barnes, whose analysis

of the cases recorded in the paper would form the basis of further observations on this subject.

Mr. Brodhurst observed that this was a subject which had not received much attention in this country. He considered that the affection in question was not a true dislocation, as it was described by the author of the paper, and that it differed materially from ordinary lordosis, and from those forms of lordosis which are produced by congenital dislocations of the heads of the femurs by some very rare forms of caries of the bodies of the vertebræ, etc.; but it was induced, he said, by softening of the bodies of the vertebræ, and especially by softening and yielding of the ligaments which unite the lumbar vertebræ and the sacrum. Thus was occasioned some displacement of the bodies of the lumbar vertebræ downwards. The positions of the spinous processes showed that caries was not the cause of this affection, as had been suggested, and a section of the bodies of the vertebræ showed this fact still more clearly. He contended that this condition was due to rachitic inflammation and softening of the osseous and ligamentous structures.

Bibliographical Notices and Reviews.

Outlines of Surgical Diagnosis. By GEO. H. B. MACLEOD, M.D., F.R.C.S., EEL., Phys. and Surg. Glasgow, Lecturer on Surgery Anderson's University, Surgeon to the Glasgow Royal Infirmary and Lock Hospital, Late Senior Surgeon Civil Hospital Smyrna, and General Hospital in the Camp before Sebastapol, Mem. Cor. de la Soc. De Chir. De Paris, and Author of the Notes on the Surgery of the War in the Crimea. First American edition, from Advance Sheets. New York: Bailliere Brothers, 520 Broadway. 1864.

This is an English book, gotten up for the purpose of increasing our knowledge of surgical diseases. To diagnose a maledy is to recognize its nature and to distinguish it from all other affections. The Fathers had an aphorism—"Qui sufficit ad cognoscendum, sufficit ad curandum"—which has some force. A surgeon may sometimes cure without comprehending every thing pertaining to a disease. Still a knowledge of the nature of disease and ability to cure, generally go together. This, too, is more true in surgery than in medicine. A large proportion of surgical diseases are readily distinguished and readily cured. Fractures, dislocations and tumors, which constitute no small part of the troubles with which the surgeon is concerned, are,

in general, so obvious that but little skill is required in understanding them. No one, however, from this circumstance should estimate too lightly these diseases. It often requires the highest order of mind and the most thorough cultivation to comprehend the exact character of a fracture, or to differentiate it from other things. Fracture of the neck of the thigh bone, or of the head within the capsular ligament, are in point. How often have these been mistaken for luxations at the hip-joint! Tumors, too, often resist the most thorough efforts of investigation. Fatty and fibrinous tumors, which of themselves generally import but little, are not always characterized so as to be distinguished from those that are malignant. History, symptoms, morbid anatomy, and the effects of remedies, invoked even to the utmost extent, fail to solve the problem. At one time the microscope was supposed to reveal a peculiarity of structure belonging to malignant tumors. At present, if we except an appearance or two, such as cells of recent development and in large proportions, we have nothing left that amounts to much as characters of malignant tumors. The history of a tumor, like the history of an individual, is of the most importance in learning its real character. If benign its origin, and its progress even through a series of years are marked by no incident prejudicial to the comfort or general health of the patient; if malignant, distress from the commencement, and during its progress a gradual impairment of all the prominent functions of the organism. So obvious become the disturbances in structure and in function that the condition has been not inaptly termed "*cancerous cachexia*."

Marshall Hall discusses the whole subject of diagnosis under the following heads: *History*, *Semeiology*, *Morbid Anatomy*, and the *Effects of Remedies*. We like this method, whether applied to medical or surgical diagnosis. The history of a case is perhaps the most fruitful source of information concerning it. It embraces every thing pertaining to cause, age, sex, habits, idiosyncrasy, and residence. In a case of fracture, for example, the *cause* embraces the character of the violence, when experienced, age of the patient, habits at the time, with peculiarities of temperament. Of recent origin, the exact character would be more likely to be appreciated than if of long standing. The subject being advanced in years, the fracture would be likely to be complete, and characterized by cripitus. On the contrary, in children many fractures are incomplete, amounting to a mere bending of the bone. Habit of the patient is a matter of great importance and should never be overlooked.

The value of symptoms in diagnosis rises so high as, in the practice of some, to entirely overshadow every thing else. The word *symptom*, derived from *syn*, "with," and *ipto*, "I fall," indicates at once the close connection that has been supposed to exist between the symptoms of a disease and the disease itself. A good definition of the term *symptom*, should imply the signs by which diseased action is characterized, the signs perceptible to the senses. This method of identifying disease embraces every thing indeed upon which the senses can operate. The eye, the ear, the smell, the sense of tactility, and the sense of taste—all are employed, directly or indirectly, in the investigation of disease. When used directly, they require to be educated and disciplined, in order that the most of which they are capable may be accomplished. To an individual whose senses have been thoroughly trained the import of a group of symptoms is pretty readily comprehended; while to one who is destitute of such advantages, the same group of symptoms would not be understood at all. Almost any one can do something in the interpretation of ordinary phenomena. But how many have the ear so well educated as to be able to comprehend the abnormal sounds of respiration, or of the heart! But from the circumstance that all efforts at cultivating the senses fall short in imparting to them perfect accuracy, we have a series of fallacies, or sensual illusions, that seem to be inseparable from the action of these organs. We can all see, but how few of us can see all that is to be seen, or see what is present in its true light!

The value of symptoms is qualified by quite a number of circumstances. It would be a very easy matter to diagnose a disease, were it always characterized by the same set of symptoms. But it is not. The symptoms vary so much that there is no one that can be said to be constantly present, no one that is really entitled to the consideration of "*pathognomonic*." Were there, indeed, a single one in pneumonia, for example, always present it would seem to be a very important guide in determining the character of the complaint. Such being the case, the practitioner of medicine or surgery who relies entirely on symptoms in the discrimination of disease, will often find himself disappointed. Without a complete knowledge of the History, most cases will remain unsolved. And the history and symptoms, even, will often prove insufficient until confirmed by morbid anatomy.

Morbid Anatomy as a means of diagnosis was unknown to the an-

cients. Dissections, even for instruction in healthy anatomy, was prohibited by law until the time of the Alexandrian school. And for a long time after the existence of this celebrated school, that may be said to have originated the sciences of Anatomy and Chemistry, the practice of dissections was allowed to but a limited extent. As a consequence, dissections for the purpose of tracing the *ravages of disease* were very uncommon. What was done had to be done secretly and in the face of laws with heavy penalties. Observations of a *pre-mortem* character, such as the inspection of skin diseases, ulcers, diseases of the eyes, fractures, dislocations, etc., of course obtained from the earliest period. But little progress, however, was made in *post-mortem* dissections until during the present century.

The anatomy of the body in a state of health describes the elementary tissues, their properties, and the manner in which these are arranged and distributed so as to form the different organs, and the way in which the body is developed from them. *Pathological* anatomy seeks to describe the deviations from the healthy standard, as seen in the manner in which the textures are changed, new formations foreign to the normal condition introduced (*epigeneses*), organs altered in form, color, consistence and relations. Many regard disease as a self-existing entity, an independent organism, or pseudo-organism. The tendency, nevertheless, of the philosophers is to regard disease as a mere change in the vital phenomena of an organism; or as a departure in function or structure from the healthy standard. While all such speculations are of no earthly importance, except in the way of affording exercise for the mind, there is a point in the connection that deserves a little confidence. We can have no idea, for example, of disease without a lesion of structure. In some way or other the tissue or fluid diseased must show alteration, change from the natural state. The alteration may not always be appreciable to the senses. It may require the microscope, or even chemical tests, before made evident.

But more, what is the value of these changes of texture in a diagnostic point of view? Much in regard to the habits and characters of extinct animals may be known by examining the traces, or tracks, which these animals have made on the strata of the earth, while in the soft state. Why not, therefore, learn something of the characters of a disease from the way it has impressed itself upon the tissues? A musket ball kills, and we see the traces of it; a disease kills, and why may we not see its traces? Granting that we do, the question

occurs, Have our observations been sufficiently numerous in the dead house to establish the connection of these morbid changes with disease? Is phthisis pulmonalis, for example, the result always of the same lesions? Such questions cannot be answered in the affirmative at present. So much are the lesions of a disease varied by age, sex, habit, idiosyncracy, climate, season, and a great variety of other things, that great care is required to avoid falling into grave errors. We invoke the *numerical* method, and not without good results. Should we find in ninety-nine out of every one hundred cases of typhoid fever that ulceration of Peyer's glands is present, we would be very safe, all would say, in concluding that there must be a very close connection between the group of phenomena to which we apply the name of *Typhoid* fever and ulceration of Peyer's glands. On the other hand, are we justified, when ulceration of these glands is present, in concluding that the case is one of typhoid fever? Louis, the able advocate of the numerical system, would reply in the affirmative. Researches conducted however with the greatest care would seem to throw doubts upon the subject. There are other diseases that are attended with ulceration of Peyer's glands. Then again Typhoid fever, if we would believe Andral, occasionally occurs without any appreciable lesion of these glands at all.

Upon the whole, therefore, the value of structural lesions in diagnosis may be easily over-rated. It is only when taken in connection with the History and Symptoms that they are of any great use in making up an opinion.

The *Effects of Remedies* have been invoked in diagnosis. Marshall Hall thought well of the method. He proposed bloodletting in certain cases to determine the character of the complaint. Although drugs are scarcely ever administered for the purpose of calling out the characters of a disease, it is nevertheless very common for the physician to come to conclusions concerning the nature of the disease he is treating from the effects of the medicine administered. Take a case of ague, for example. The great diversity of phenomena to which the poison of malaria gives rise makes it often troublesome to arrive at correct views. In one instance we may have fever, in another inflammation, in another neuralgia—all the result of the same poison. Neither the symptoms in such cases, nor the history, sufficiently indicate the character of the complaint. But a dose of quinine will. The quinine is administered, the disease disappears, and what

more reasonable than to conclude, from such a circumstance, that the disease was one of malarious character?

In trying to understand the nature of disease, it should not be forgotten that much relating to the history of cases, which are really different in nature, may have something of an unity of appearance. The same remark is true of Symptoms. A single symptom may be due to a variety of causes. It is, therefore, only when a great number are present that a probability is established concerning the character of the disease.

A point not to be lost sight of in diagnosis is, that disease is often very complex, the phenomena by no means depending upon destruction in a single organ or apparatus, but due to several causes operating on different textures. Here the causes being compound, compound signs and symptoms must be present. Such circumstances must embarrass the diagnosis. To unravel the difficulty it will be necessary to distinguish between symptoms uniformly associated with certain conditions, and those merely accidental. These again must be divided into phenomena, which, though not essential, are more or less directly connected with the morbid state and those which are wholly independent of it.

Something, and perhaps no little, in diagnosis depends upon a good system of nomenclature. There is scarcely an author but what divides diseases, for the purposes of description, into *general* and *local*. But further than this there is not very much harmony as to what should be the names of individual diseases. To a certain group of phenomena we often have different names applied. Then again the tendency is to refine. What once received a single name, now has several. Then again the principle upon which diseases are often named is very whimsical. The name is given to the disease because of some single symptom or appearance (as the name Chlorosis, from the appearance of the skin), or even from a symptom or lesion purely accidental. We have had the nosological systems of Lauvages, Linnaeus, Vogel, Lagar, McBride, Cullen, Darwin, Parr, Pierce, Good, Hosack. These systems are all more or less antiquated. Some of them have outlived their usefulness. What we now want is a system that shall embrace the name of the texture or fluid involved, and a name that will be most expressive of the nature of the change or alteration in the part diseased. *Hypertrophy* does well as a name for an enlarged organ. So Hyperæmia, for excess of blood in a part

But the term *Inflammation*, any one can see, is almost if not entirely a misnomer.

Upon the special subject of diagnosis, the work before us will prove very valuable. On *Fluctuation* we find some very good suggestions to the student. Fluctuation is a term applied to that equable movement in all directions which we observe in fluid, and it is easily mistaken for other conditions, especially elasticity. The Author gives the usual precaution, of taking care not to confound the sensation, from a tap, communicated to the *pulp* of the finger, with that coming to the *side* of the finger from the mere elasticity of the parts. Again, when there is a thick layer of muscle over the fluid, we should press the pus in the axis of the muscular fibre, otherwise the lateral displacement of the muscle may give a sensation that will mislead.

The subject of *Cancer* receives a very good notice. It, as we all know, is distinguished with no little difficulty in many instances from growths purely non-malignant. It is true that cancer is a *constitutional* as well as local affection ; is composed of heterologous tissues altogether, that is, tissues unlike any of which the body is composed ; is more common to females than males, and to the aged than to the young ; and as a consequence of such facts, always has a history and sensory character that aid considerably in making up opinions. Yet the surgeon often finds himself at a loss as to the character of the complaint ; and especially is this the case at the commencement. The microscope is often employed, and in the opinion of many not without advantage. Cancer in all its forms is supposed to consist, in its minute structure, of certain peculiar elements, readily recognized.

"There is a basis substance of greater or less cohesion, and a juice of exudation, in which the peculiar cancer cell is found. This cell is variously shaped, being round or oval, or spindle-shaped, or lanceolate or caudate, and inclosing large, regular, compound *nuclei*, and one or two or more bright *nucleati*. They are combined in the growth with granules and coloring matter in varying proportions."

There is quite a number of physicians who credit the revelations of the microscope with considerable strength in the way of reservations. Such are apt to think lightly of the instrument as a means of differentiating tumors. Of all such it may be said, "they know not whereof they affirm." If the eye unaided is of use in assisting the other senses to untie a pathological knot, of course it would be difficult to show that it could be less so, when its powers are increased

by the microscope. Pretty much all who have used the instrument in making out the character of tumors, agree that great care is required. While it is believed that there are microscopic phenomena peculiar to cancer, it is known that there is a very gradual shading off of these phenomena into the elements of the non-malignant tumors. In the imperfect or early development of cancer, therefore, the cancer cell may so nearly resemble the cell of some of the harmless growths, that microscopic discrimination is impossible. Cases also may occur in which the cancer elements may exist in such small amount in a tumor supposed to be cancerous, and so mixed up with other elements, that they entirely escape detection. In neither of these cases is the fault with the microscope. Its teachings are *negative*, purely. Such cases simply prove that, assisted with even the microscope, we are unable to compass the difficulty.

We here rest for the present our notice of this book. It is very well written so far as manner is concerned, and so far also as matter is concerned. Upon the whole department of Diagnosis the work is well advanced; and it is easy to see that, on special subjects, it gives the substance of what is known and relied upon.

Physician's Visiting List, Diary, and Book of Engagements for 1865. Philadelphia: Lindsay & Blakiston.

The contents embrace Almanac, Table of Signs, Marshall Hall's Ready Method in Asphyxia, Poisons and their Antidotes, Table for calculating the period of Utero-Gestation, Blank Leaves for Visiting List. For sale at Book-stores.

The Physician's Dose and Symptom Book: Containing the Doses and Uses of all the principal articles of the *Materia Medica* and *Officinal Preparations*; Also the Tables, Weights and Measures; Rules to proportion the Doses of Medicine, Common Abbreviations used in uniting Prescriptions, Tables of Poisons and Antidotes, Classification of the *Materia Medica*, Dietetic Preparations, Table of Symptomatology, Outlines of General Pathology and Therapeutics. By JOSEPH H. WYTHES, A.M., M.D., Author of the *Microscopist*, Curiosities of the Microscope, etc., etc. Fourth Edition. Philadelphia: Lindsay & Blakiston. 1864.

This volume was compiled for the assistance of students, and to furnish a *vade mecum* for the general practitioner which would save the trouble of reference to larger and more elaborate works. That the work is appreciated the number of copies sold would seem to indicate. Already it is in the fourth edition. For sale at the Book-stores.

Lectures on Medical Education, or on the proper Method of Studying Medicine. By SAMUEL CHEW, M.D., Prof. of the Practice and Principles of Medicine, and of Clinical Medicine, in the University of Maryland. Philadelphia: Lindsay & Blakiston. 1864.

The contents embrace *five lectures*.

Lecture I. Introduction.—Power of Industry.—Whether special talents for Medicine are necessary, etc.

Lecture II. Reading as a Means of Study.—Errors in its use.—Improper selection of books.—Too much reading; its evils, etc.

Lecture III. Errors in Reading continued.—Reading without thinking.—Popular errors on the subject.—How to read to advantage.—Lectures as a help in the Study of Medicine.—Examinations after Lectures, etc., etc.

Lecture IV. Clinical Experience.—Necessity of a Hospital to every Medical School.—In what manner useful.—Observations alone not sufficient.—Examination of Patients.—Auscultation, best way of learning it.—Conversation as a means of acquiring knowledge.

Lecture V. Medical Schools.—Controversy respecting them.—Difference between American and European Schools.—Causes of that difference.—Education of our Physicians not inferior to that of our Lawyers and Clergy.—Students not to depend principally upon the Schools, but upon themselves.

That any thing could be written upon the thread-bare subject of Medical *education*, and especially at the present time, which would receive a reasonable degree of attention no one ordinarily endowed would think probable. Dr. Chew has, nevertheless, made the experiment, and it remains to be seen how he will succeed. We took time to travel through enough of the work to be enabled to form an opinion of it. It will pay perusal very well; and there are very few who have been concerning themselves with the subject of which it treats that it will not instruct. The whole subject and all its relations

are carefully considered. We do not agree with the author in some of his conclusions. But perhaps he is right nevertheless.

It is useless to expect that the standard of medical education can be above the standard of other things of like character in the country. This country is new. The present Government is less than a century old, and there were no white feet on the continent a few hundred years ago. From such facts what should be expected? Give us the time necessary to mature things, and our present medical education will be very different from what it is. England and France are both old. Both had made considerable progress in medicine before this country was discovered. Now they can prescribe authoritatively. Each has a curriculem of studies as necessary to a degree, and each has the power to enforce full compliance. In this country we have at present no rules on the subject of preliminary education. Students make their appearance at medical colleges often without a knowledge of their mother tongue. Why not turn them back to other pursuits? Such an inquiry might seem pertinent. To those, however, who understand things in this country, it would be answered by asking another one: From whence the material obtained out of which to make physicians?

A few might be induced to comply with the severest regulations in regard to preliminary education, length of time engaged in medical studies; and a few might be drawn from France and England, were superior advantages in the way of patronage held out. But how many of us are aware of the number of physicians annually required in this country in order to make up the loss by death, and the abandonment of the profession for other pursuits? Then again, we require a large number to meet the wants of an increasing population. Annually the Colleges turn out from fifteen hundred to two thousand, and yet we see no surplus. Indeed, just now we are scarce, really scarce, of physicians all over the West.

In conclusion, we say give us something practicable on Medical Education—something adapted to our condition and our form of civilization. As we grow older we will advance our standard, but it is only as we do grow older that we can do it.

of in Medicine and kindred sciences; With an Appendix, comprising a complete list of all the more important articles of the *Materia Medica*, arranged according to their medical properties; And an explanation of the Latin terms and phrases occurring in Anatomy, Pharmacy, etc.; Together with the necessary directions for writing Latin Prescriptions, etc., etc. By J. THOMAS, M.D., Author of the System of Pronouncing in Lippincott's Pronouncing Gazetteer of the World. Philadelphia: J. B. Lippincott & Co. 1864.

This work is designed to supply a want that the author thinks has long been felt by those commencing the study of Medicine and the collateral sciences. In the United States a classical education is not made an indispensable condition for conferring a degree in Medicine. And as a very large proportion of the terms used in the profession is derived from the Greek and Latin languages, both of which are regarded as being dead, a series of difficulties are encountered in getting at the proper *pronunciation* and *etymology* of these terms.

"What correct spelling is to a writer, correct pronunciation is to a speaker. Should either be neglected, the most perfect language would soon become a Babel." All must see at once, that unless a constant effort be made to conform our pronunciation to a common standard, the language which now goes by the name of English would in a few years be spoken very differently in different parts of the world. In the pronunciation of Latin terms, or Latinized Greek terms, the author follows the *Italian* pronunciation, because being more nearly related than any other to the Latin.

We take pleasure in bringing this work to the notice of the profession. A library is incomplete without it.

Lectures on Orthopaedic Surgery: Delivered at the Brooklyn Medical and Surgical Institute; With numerous Illustrations. By LOUIS BAUER, M.D., M.R.C.S., Eng. Prof. of Anatomy and Clinical Surgery, Licentiate of the N. York State Med. Society, etc., etc., etc. Reprinted from the Phil. Med. and Surg. Reporter. Philadelphia: Lindsay & Blakiston. 1864.

The subject of Orthopaedic Surgery is beginning to attract considerable attention. Dr. Detwold, of New York, delivered a series of lectures on the subject, and Prof. L. Sayre has also given a course at

the Bellevue Hospital Medical College. The subject is not a new one. Hippocrates described club-foot; Ambrose Paré, Severinus, and others, have given us accounts of the trouble; and it is very difficult to imagine that any surgeon of character, of any age, should have overlooked deformities so striking, or should have been indifferent as to their treatment. Andry of Paris has, however, the reputation of having been successful in fixing the professional mind upon the subject, as one of no ordinary relative importance. Venel of Switzerland, nevertheless, was the first who organized an institution for the exclusive treatment of distortions. In connection with the subject, the name of Sromeyer should be mentioned. He introduced subcutaneous myotomy and tenotomy. By these operations a very large number of deformities were cured.

Orthopædic surgery in Germany has been a favorite subject. Besides, Stomeyer, Deiffenbach, Losinser, Langebeck, and others, have contributed to the general stock.

Dr. Little of England, the founder of the Royal Orthopædic Hospital in London, and himself a subject of club-foot (congenital), has been very conspicuously before the public as an ardent cultivator of the subject.

The Diseases of the Ear: their Diagnosis and Treatment. A text book of Aural Surgery, in the form of academical lectures, By Dr. ANTON VON TRÖLTSCH, Aural Surgeon and Lecturer in the University in Würzburg, Bavaria. Translated from the German, and edited by D. B. St. John Roosa, M.D., Assistant Surgeon to the New York Eye Infirmary. Illustrated with wood engravings: from the second and last German edition. New York: William Wood & Company, 61 Walker Street. 1864.

Such is the title of a neatly executed little volume of 254 pages, recently issued. The scope of the work, adapted as it is to an obvious want of the profession, is such as to merit careful scrutiny of its merits.

It contains twenty-five lectures. It is not so extensive, nor so lumbered with details, as to unfit it, or even render it inconvenient for the purposes of the general practitioner; and yet it is full enough for practical purposes, enough so, in fact, to make it valuable, even as a book of reference.

Other duties forbid the full study of it at present. A careful perusal of the first five lectures, however, gives us a very favorable impression. It is mostly direct and clear, occasionally forcible, in style, and candid in spirit; at the same time it abounds in evidence of liberal experience, careful research, sound judgment, and practical discrimination on the part of the author.

In the lectures perused, the only thing we notice that strikes us as new, relates to the author's method of illuminating the meatus auditorius externus. To our conception this is of vital importance. As a practical or therapeutical matter, any method of illumination by which the whole surface of the meatus, with that of the membrana tympani, can by simple and accessible means be brought fairly and fully into view, can scarcely be put at an exaggerated estimate. Promising ourselves an early opportunity of putting his method to the test, we insert his account of it in full:

" But it is not necessary to have any artificial light, or complicated contrivances, in order to always obtain a strong, deeply reaching illumination of the canal and membrane. If we take a sufficiently large and strong concave mirror, and throw by means of it a strong stream of ordinary daylight upon the ear, we can see the parts clearly to the minutest portion, which with the naked eye is impossible, and this method sweeps away all the evils attending the other ones. The mirror must be of 5-6" focal distance, and not less than $2\frac{3}{4}$ to three inches in diameter. Metal mirrors are not so good as glass, and it is most convenient if they are perforated in the centre, or the quicksilver covering can be removed at this point. The mirror of the ophthalmoscope is not adapted for this purpose, being too small and having too small a focal distance, and consequently we cannot detect minute changes. Coarser distinctions, such as if the membrana tympani is wholly or partially covered, grey or red, if the canal be stopped or free, we can generally well enough ascertain with the small mirror.

In certain cases, e. g. during operations, or the administration of an air bath, I fasten the mirror to the forehead, as in the use of the Laryngoscope. The use of the reflector enables you to turn the ear away from the window, the patient being between the window and the surgeon. We can examine adults most easily in the standing position; in the case of children the patient sits or places the little patient on a stool, so as to be parallel with him.

" Since the ear lies in the middle of the head, we do well to lower it a little, or place it slightly to one side in order that no portion of the mirror may be shadowed. We very soon learn how to place the mirror and the patient, so that we have the very best point of illumination. If we give the mirror a slight motion to one side or the other we quickly find the best relative position of the deepest part. White or light grey clouds afford here as with the microscope the best light. Sunlight thrown directly into the ear is too dazzling, and excites at the same time a distinct feeling of heat in the membrana tympani.

If we find the sunlight immediately opposite this, we turn the patient away to the other parts of the sky.

"Experience will teach us that this method of examination is preferable to all others, and that its advantages in opposition to those formerly practiced are very great. The colorings of the part are not changed as with an artificial light ; but are given back distinctly and truly. The necessary appliances* are simple, not costly, and portable. The greatest advantage of this method of illumination, however, is that it may be practiced in all kinds of weather, when the patient lies in bed (if necessary with a candle), and we are not obliged to turn the patient to a window if it be too far off, and a light colored wall be near.

"Furthermore, the examination of the ear in this manner is easy and convenient, there is no danger of making a shadow with our heads, and we can yet come very near to the patient, and see clearly the smallest and finest distinctions in form and color. It is by no means difficult to learn this method of examination, and it has proved itself a good and practical one."

We have already alluded to the work as being rather direct and clear in style. To this, whether as the fault of the author or the translator we are not in position to judge, there are occasional manifest exceptions. As an instance, we refer the reader to the sentence in this quotation, closing the second paragraph : "We can examine adults most easily in the standing position ; in the case of children, the patient sits or places the little patient on a stool, so as to be parallel with him."

The latter part of this sentence is certainly very obscure. We are gratified to state, however, that obscurity is by no means a prevalent fault of the book, and that it is thus rather marred than seriously injured.

The translator has made occasional additions, a work for which he is well fitted by his large experience in aural surgery. He has, furthermore, very satisfactorily met the requirements of his position as editor. We feel fully warranted in heartily commending this little book to the liberal patronage and attentive consideration of the profession.

J. W. H.

* They may be obtained at the surgical instrument manufacturers in New York.

Editorial and Miscellaneous.

"*Medicine in Cincinnati.*"

In this number we republish an article, from the *Lancet and Observer*, on Medicine in Cincinnati. It will be noticed that the subject is reviewed for some time back, and the conclusions arrived at are by no means flattering to those who have figured in the management of medical schools in the Queen City. Of the truth of the charges preferred, the reader must be his own judge.

The Ohio Medical College is the only medical college in the State that receives State patronage. It does; and it is this circumstance that gives, at times, a political cast to its movements. The present Board of Trustees and the present Faculty are the result of a turn in the political wheel.

How far the state of Medicine, of which, the *Lancet* complains, is the result of "personal piques," "selfish schemes," &c., as the reviewer suggests, we have no means of knowing. It is generally known that some very good teachers have left Cincinnati. Drake, the most remarkable medical man of this Continent, left the place several times, because, as he stated, of troubles he was unable to control; and he really spent the most useful portion of his professional life in the schools of other cities. Eberle, so long a resident of Cincinnati, died while engaged in delivering a course of lectures in the school of a neighboring State. The names of a number of gentlemen, some dead, and some still living and giving character to the schools of neighboring States, might be mentioned as having left Cincinnati for other theatres of usefulness. That all these gentlemen, however, were driven off by "personal piques" and "selfish schemes," as the *Lancet* seems to suggest, is a matter with reference to which there is room for some diversity of opinion.

The *Lancet* seems to summon, among other things, the circumstance that the Ohio Medical College has never been favored with large classes, to prove that Medicine in Cincinnati is at rather a low ebb. Between premises and conclusions here, almost any one might have some considerable difficulty in seeing the connection.

A small class is no evidence of poor teaching or of the inefficiency of a medical school. If it were, then pretty much all the schools of Europe could be proven inefficient. In England, and on the Continent, the classes are small, very small, when compared with some in our country. The truth is, the smaller the class the more likely it is to be benefited by the efforts of Professors.

To what extent "*home talent*" has been discouraged and kept in obeyance by those having the management of the college in Cincinnati, but few have any means of knowing, except the parties interested. It is certainly wrong, very wrong, if not cruel, to discourage "*home talent*." The party doing it should not be spared the retribution due sinners of the first class. But is "*talent*" really a thing that depends on circumstances, good or bad? Is it affected at all by measures even calculated to discourage it? Does it not rise up in spite of opposition, of all kinds, however well directed? The circumstances surrounding Jenner, Hunter, Harvey, Newton, were not more favorable than those that have surrounded the young *Æsculapians* of the Queen City. The Pharaohs, the Ptolemies, and the Cæsars, gave us our start in the way of letters, numbers and physical sciences. But did either of these, or all of them together, possess the advantages for investigation now enjoyed by most of the young men of Cincinnati?

The practice of appointing Professors from abroad when chairs have been made vacant, is complained of by the *Lancet*. This, it is alleged, has been done to an extent by no means warranted by the best interests of the school. Why go abroad for Professors when there are plenty just as good at home? Why even neglect teachers at home who have been tried and found worthy, for those from a distance who are novices in the business? Such are some of the questions raised for public consideration by the *Lancet*. What gives point just now to such remarks, is the fact that during the past autumn the Ohio Medical College was reorganized, so far as its Faculty is concerned. The result of this reorganization is a Faculty made up almost entirely of foreigners, two of whom have had no experience whatever in teaching in a medical college.

There are at the present time in Cincinnati not a few medical gentlemen who are just as competent to teach Medicine as any who are engaged in the business in the West. Why, therefore, not go to work and organize one or two new schools. It may be

said, "If two or three new schools were organized the classes would be too small to be profitable." If mere pecuniary reward be the object of the teacher, there are but two or three schools in the United States worthy his attention. But if on the other hand, character and usefulness be the object, there is scarcely any class too small. The Professors abroad—in England and on the Continent—lecture to small classes, or rather to classes that we call small. Andral and Rokatansky lecture to but few students—often not more than fifteen or twenty.

Hospital in connection with Starling Medical College.—The opportunity is now presented of organizing a Hospital in connection with Starling Medical College, to be managed by the "Sisters of St. Francais," an Order of Sisters whose sole vocation is that of keeping charity hospitals.

In the erection of the College building, a very large part of it was arranged for hospital purposes. This portion, owing to the exhaustion of the funds necessary to finish it, passed into private hands, by whom it has been finished and held until the present time. A debt has been created upon it, which has prevented its being occupied in accordance with the wishes of the founder, the late Lyne Starling. Now, however, the opportunity is presented of removing this encumbrance, and of placing it in the line of operations indicated by the Deed of Trust; and it is to be hoped the Trustees will lose no time in availing themselves of the very favorable circumstances with which they are now surrounded, of organizing an institution so vital to the College, and so important to our city.

The tendency of the day is to have hospitals in connection with colleges. Whether right or wrong, public opinion regards a Medical College as incomplete, imperfect, without a hospital. This feeling is so general and so decided, that no college, however well conducted in other respects, can afford to disregard it. Where there is no hospital, something must be trumped up to serve as an apology for one. Such shifts, however, soon wear out, and the students at last patronize the schools that have real hospital facilities. A knowledge of disease is the sum of the student's purposes in attending lectures. He looks upon all the departments

as contributing to the great end of making him acquainted with diseases, and the method of curing them. In the lecture room the student is made acquainted with the character of the enemy, the topography of his situation, the strength of his resources ; but it is in the hospital that the fight takes place. Here, and here alone, can be seen the order of attack, the disposition of forces necessary to victory and the hand to hand conflict with the enemy.

LATER.—The enterprise is consummated.

New Books.—We have on our table a number of new books, new editions, monographs, etc., notices of which will appear in our next issue.

Gross' Surgery—Third Edition.—This work has just been received. We have no time for anything more, in this issue, than the announcement that the work, THIRD edition, is for sale at the book stores.

We learn that the author has expended two and a half years of arduous labor upon the edition before us. "Every chapter has been thoroughly revised ; the text has been augmented by an amount of matter nearly equal to two hundred pages, and a considerable number of wood cuts have been introduced. Many portions have been entirely re-written, and every effort has been made to condense the language."

The author has abundant reason to be pleased with the manner in which this work has been received, both at home and abroad. In July, 1859, the first edition made its appearance.

This and also a second were rapidly exhausted, and now, in a period of a little more than five years, a third edition seems to be demanded. The work has been favorably noticed abroad, and has been translated into the Dutch language. As a systematic treatise it is destined to rank high. This edition may be regarded as an expression, and a very good one, too, of surgery as it is understood and practiced at the present day. Although not exactly an encyclopædia, it nevertheless embraces a consideration of pretty much everything belonging to the department. In this

respect it differs from most of the works now in the hands of the profession, which are limited to the leading diseases.

Slade on Diphtheria : Its Nature and Treatment; with an account of its history and treatment in various countries.—This is a second and revised edition of the essay to which was accorded the Fiske-Fund Prize of 1860.

Our knowledge of the nature, causes, and treatment of Diphtheria is still lamentably deficient. There is scarcely a physician but what has seen the disease and treated it. But how little any of us know of it!

Keyser on Glaucoma : Its Symptoms, Diagnosis and Treatment.—The author has tried in this essay to lay before the reader, in an easy and practical form, the latest theories relating to Glaucoma, so as to enable him to grasp the most salient and important points in the symptoms, diagnosis and treatment.—Philadelphia, LINDSAY & BLAKISTON, 1864.

Gunshot Wounds, and other Injuries of Nerves; by S. Weir Mitchell, M. D., Geo. R. Morehouse, M. D., and Wm. W. Keen, M. D., Acting Assistant Surgeons U. S. A., in charge of U. S. A. Wards for Diseases of the Nervous System.—The contents embrace eleven chapters. Philadelphia, J. B. LIPPINCOTT & Co., 1864.

Beasley's Book of Prescriptions.—Containing 3,000 prescriptions collected from the practice of the most eminent surgeons and physicians, English, French and American; comprising also a compendious history of the *Materia Medica*, lists of the doses of all officinal or established preparations. Philadelphia, LINDSAY & BLAKISTON, 1865.

This is a second, from a revised London edition. The publish-

ers have undertaken to make the work more acceptable to the American public by translating into plain English all the Latin directions for dispensing the prescriptions and administering the medicines.

Fuller on Rheumatism, Rheumatic Gout and Sciatica—Pathology and Treatment; from last London Edition. Philadelphia, LIND-SAY & BLAKISTON, 1864. The reader will understand that this is the *third* edition of this very able work. Great care has been bestowed upon this edition, and the author hopes that he has added some good things to his former labors.

Obituaries.—Prof. JONATHAN KNIGHT, of New Haven, died on the 25th of August last, in the 75th year of his age. For many years Dr. Knight filled the chair of Surgery at Yale Medical Institution. He was the President of the Convention which organized the American Medical Association. After the Association was organized, he was elected to the Presidency (1853-4).

The death of Prof. BENJ. SILLIMAN, Sen., is announced in the papers of the east. He died at an advanced age. To the public he has been long known as the principal editor of the *American Journal of Science and Arts*, a work that has reached its xxxvii. volume.

Dr. WM. PEPPER, late Professor of the Practice of Medicine in the University of Pennsylvania, died at his residence in Philadelphia on the 15th of October, in the 56th year of his age.

Apology.—The late appearance of the present Number is due to the circumstance that an accident occurred to our printing machinery.

Prof. W. W. DAWSON, M. D., has resigned the chair of Anatomy and Physiology in Ohio Medical College.

Chronic Hydrarthrosis of the Knee Joint successfully treated by the Injection of Tincture of Iodine after Tapping.—A late writer on Diseases of the Joints, in the third volume of Holmes' "System of Surgery" (Mr. Athol Johnson), in dwelling upon Dropsy of Joints, observes that, in old and neglected cases, the affection resists all ordinary treatment, and must either be abandoned as incurable or further measures must be had recourse to, the most practicable of which is iodine injection, employed as in ordinary hydrocele. This mode of treatment was first introduced by Bonnet, of Lyons, and has been practiced occasionally, though rarely, by Mr. Erichsen, Mr. Barwell and others, with very satisfactory success. A number of cases have been placed upon record by Dr. Robt. L. Macdonnell, of Montreal; and we add another, where, after all other treatment had persistently failed, iodine injection was curative.

From our own experience in watching cases under treatment, the pure tincture of iodine, as preferred by Bonnet, seems more beneficial and positive in its effects than when diluted with water; and this point is worthy of especial remembrance. A certain amount of inflammation invariably follows this mild operation, and this must be prevented from going too far, or proceeding to suppuration, by retaining the limb in a state of complete quietude.

The following notes were furnished by Mr. C. St. Auburn Hawken, house-surgeon to the hospital:

Wm. S—, aged twenty, was admitted into Northumberland ward on the 14th of January last. The patient stated that three years and a half since he received a blow upon his knee. Six months afterwards, apparently without any assignable cause, the knee became swollen and was painful, so that he could not, being a tailor, rest his board upon it. He was seen by a surgeon, and the joint was blistered, and afterwards painted with iodine. This reduced the swelling; but the knee remained stiff, though free from pain. He continued now to use it for nine months, at the end of which time it again became swollen, and another blister was applied, which gave such relief that he was enabled to continue his work for another year, although during the whole time it remained larger than that of the opposite side. A year ago it again swelled and pained him slightly; and he then took cod-

liver oil, and rubbed the same into the joint. It was sufficiently relieved for him to use it again (now as a painter) until Christmas last, when, it having resumed its old condition, he came into the hospital.

On admission, the joint was greatly distended with fluid, slightly painful, but not red. He had a strumous aspect, and he stated that his mother died from consumption. A blister was applied over the joint, and he was ordered an ounce of the mixture of iodine of potassium thrice a day, with full diet. The blister was repeated from time to time, but it did not reduce the swelling. Mr. Holt now ordered the knee to be put up in Scott's dressing, and it was so kept for six weeks; but, when removed, no difference in the size of the joint was perceived. It was now painted with tincture of iodine, still without benefit; and afterwards a solution of nitrate of silver (twenty grains to the ounce) was applied, but without affording any relief.

Failing in all ordinary treatment, on April 19th Mr. Holt punctured the joint with a small trocar, and removed a considerable quantity of thin, serous, and slightly yellow fluid, and afterwards injected equal parts of iodine and water. The joint was put upon a ham splint.

On the following day the joint was about the same size as before the injection, but not painful or even tender to the touch. This treatment was attended by some good results; for on May 10th the joint, which before the injection measured fifteen inches and a quarter, was now reduced to fourteen inches three quarters. Beyond this the injection did no further good; and after the expiration of another month, finding the joint remain the same size, Mr. Holt punctured it a second time. Upon this occasion the fluid was more purulent, but less in quantity. Two drachms of undiluted tincture of iodine were now injected, and left in. The patient did not experience any pain, and on the following day the joint was more swollen, but not painful. From this time the joint gradually decreased in size, and after another month measured thirteen inches. He was also able to leave his bed, first walking with the aid of crutches, and afterwards with sticks, when he left the hospital for the country, being able to get about with comparative comfort.—*Lancet*, Sept. 3, 1864.

Cancer in the Male Breast.—The occurrence of scirrhous in the male breast is proverbially rare; nevertheless, examples have presented themselves to the surgeon at almost every metropolitan hospital, the majority of which have been recorded in our "Mirror." The following is an additional example occurring at the Metropolitan Free Hospital, under the care of Mr. Borlase Childs, the notes of which were furnished by Mr. R. C. Grubb, the house-surgeon :

Charles R——, aged sixty, admitted July 5th, 1864. Is a thin spare man. States that he has always been very healthy, and is not aware that any of his family have been afflicted with cancer. First remarked the tumour about four months ago; since then it has gradually grown larger, slowly and without pain. He attributes it to a habit of frequently pressing his chest against the edge of a bin, whilst leaning to reach its contents.

The tumour is on the right breast, and involves the nipple; it is about the size of a walnut, and feels slightly nodulated. There is no implication of the lymphatic system, and the patient's appetite and general health are unimpaired.

July 11th—Chloroform having been given by Mr. Coleman, Mr. Childs removed the tumour by an oblique elliptical incision, and brought the edges together with sutures.

The further progress of the case presents no feature of interest, except that the patient was discharged on July 30th, with the wound almost healed.

On section the tumour cut crisply. Microscopic examination showed a basis of fibro-cellular tissue, with the granular, nuculated, and irregularly shaped cells, usually considered pathognomonic of cancer.—*Lancet*, Sept. 3, 1864.

Foreign Body in the Trachea quickly giving rise to Inflammation of Epiglottis.—The following curious case lately occurred at Guy's Hospital. The question might be asked, on reading it, whether the condition of the epiglottis found after death did not precede the insufflation of the piece of apple-skin; for it may be said that choking was almost instantaneous, and the changes observed could not have occurred after death, nor in the interval of the few moments before demise.

John H——, aged twelve, was brought to the hospital, dead, on the 15th ult. The boy was eating a piece of apple, and some one tried to take it from him, when he was suddenly seized with great distress, and died. After death, the skin about the neck and givrons was stained purple, and the face bloated. The body was well nourished. The right side of the epiglottis had a dark-red patch, and on this were five or six small collections of purulent fluid. Just below the cricoid cartilage there lay in the trachea a piece of apple-skin, the size of a bean, with a quantity of slimy mucus about it. The lungs were congested, and did not collapse.

—*Lancet*, Sept. 3, 1864.

Talipes Equinus from Contraction of the Muscles of the Calf consequent on Deep-seated Abscesses.—M. W——, æt. 11 years, a pale but otherwise healthy-looking child, was admitted into St. Bartholomew's Hospital Feb. 27th, 1864, under the care of Mr. Holmes Coote. Four years ago, without any apparent cause, the left leg became swollen and tender, and deep-seated abscesses formed in the calf, preventing her walking for many months.

On admission the limb was found so much contracted that she could only just touch the ground with the toes. She constantly used a crutch.

On March 25th Mr. Coote divided the tendo-Achilles subcutaneously; and on the 1st of April a Scarpa's shoe was applied, the ends of the divided tendon having reunited. Extension was kept up, slowly increasing, until April 20th, when the foot was in perfect position, and had all the normal movements.

May 15th.—She was discharged, cured. She has a boot with irons, and a stop-joint at the ankle to prevent the heel being again dragged upwards by the recontraction of the tendon; but she walks perfectly well.—*Ibid.*

Medicine in Cincinnati.—For more than forty years the city of Cincinnati has in some sort been a leading medical centre in the heart of this great valley of central and western American States. During all these years, a worthy list of great names have from time to time been engaged in the public teaching and public and private practice, of medicine in all its departments of surgery,

practice, and obstetrics. In the early pioneer days of our Queen City the foresight and ambition of the great Drake, secured the establishment of the Medical College of Ohio, and as its strong right arm and collateral, the Commercial Hospital ; and from that time to the present, notwithstanding the bickerings of professional jealousy, these two to a fair degree have gone hand in hand in the labor of medical education ; so that we may claim for the medical instructions of Cincinnati a well devised and excellent clinical character long before that important feature became so justly prominent in the requirements of professional education.

Succeeding Drake, and associated with him, from time to time, in this city, have been some of the very greatest medical lights of American medicine and surgery. There was Godman so early cut off in his bright promise, and the lamented Staugton ; Parker and Gross ; Eberlie and Mitchell ; John Locke, John Bell, Cole, and Reuben D. Mussey. What a long list we might record, some of them long since gone to their reward—some actually driven from our ranks by petty piques, now give dignity and honor to other cities and other schools of medicine.

But with these advantages of centrality, established institutions, for educational and hospital purposes and great teachers, what a poor showing have we to record after all these forty years ! What imperfect results have we accumulated, to mark the toil of brain and waste of muscle ! All through this great teeming valley of the Mississippi are the hundreds of useful practitioners of our art, who exhibit the parchment of this City ; we thank God at least we can point to this worthy monument. But where is our strong, overshadowing school of medicine ?—we ought to have it. Where is our Hospital structure, commensurate with the wants of so great a City, and in harmony with the present plans and hygienic improvements ? Where is our pathological Museum ? The surgical and medical practice and autopsies of the Commercial Hospital alone ought to have built up a museum second to old Guy's Hospital. Where are our cabinets of Natural History, our Libraries, our Philosophical and Physiological Laboratories ? Where, in a word, are the evidences of our proud status and influence as a great and progressive profession ? those things to which we love to point our medical guest when he comes amongst us.

We retrospect these things with a sense of painful humiliation;

and yet sometimes the tracks of old wounds require an honest probe.

It would be vain and invidious to record the causes which have made for us our peculiar medical history; besides, they are not singular to us alone; college warfares, professional jealousies, ill-devised enterprises, failures and trumps sadly blended, belong to every city of which we have any knowledge, and with some the record is more marked in every respect than our own. Some of the most distinguished universities abroad hold members of their Faculty who, individually holding a world-wide celebrity, hold each other in personal contempt.

With us, as elsewhere, the medical college has controlled to a great extent—at least given shape to our professional character and direction to individual ambition and effort; and unfortunately, notwithstanding the distinguished gentlemen who have at various times adorned our ranks, the building up of a great medical school, with its details, has too generally been a secondary consideration; medical schools and hospital amphitheatres have been made subordinate to the promotion of personal advancement and private ends. This great evil has necessarily involved several others, and first of all—frequent changes, with no permanent harmonious co-operating faculty.

Individuals have been connected with the school for years, but still frequent revolutions and reorganizations have been the rule. It is bootless to say how these commotions have originated. Some of them have resulted from shameful internal dissensions unknown to the outside until the explosion occurred—perhaps outside pressure may have had its share of influence. Still this cry of “clique,” which is charged upon the profession of our city as the cause of all our woes, is simple and ridiculous. For years the voice of the departed Drake was most potent for mischief in certain circles and with certain minds; and if a proposition was made by certain parties, no matter what, but concerning the interests of medicine or teaching, there was at once raised the warning cry, “ Beware—that is one of Drake’s schemes;” and if certain men made any effort for personal or professional improvement, he would hear the same admonition, “ Look out for him—he’s a Drake man.” But Drake is dead, and now we do him reverence. Since that spirit is laid, the ghost of those terrible Miamis has come among us to

terrify the timid old ladies of our craft. They have a vast amount of sin to account for, and we fear the memory of their energy and harmony as a vigorous school will long trouble us, at least till some new shadow darkens and haunts our pathway.

One great mistake in the history of our medical politics has been the perpetual disposition in certain quarters to import material for professorships from abroad, under various fanciful ideas of supposed peculiar availability. It is scarcely in human nature to anticipate the very cordial co-operation of a home profession, with an institution by which it is thus systematically ignored. Hence a large proportion of these appointments have sadly disappointed both the school and the appointees.

Consistent with the same policy, has been that other disposition to discourage the efforts of home talent for special professional improvement; especially almost every attempt at private teaching, which really has a tendency to foster and strengthen the schools, has been smothered, and embarrassed in every conceivable mode, apparently under the impression that personal or school rivals might possibly grow out of these individual enterprises. In other cities these private schools and individual courses of instruction form very strong additional attractions, gathering in the aggregate crowd of patronizing students.

We fear we are trespassing on the patience of some of our readers, who may fancy our remarks invidious, and for the present we close our criticisms. What we have said is well known here to be true, while abroad our troubles are known without their philosophy; still we should not, at this time, have rehearsed these difficulties and unfortunate mistakes, were it not that we believe we have good reason to hope that we are now entering upon radical changes in our policy that shall set up a new order of things.

—*Cincinnati Lancet and Observer.*

Clinical Lecture on Scarlatina after Operations. By JAMES PAGET, Esq., F. R. S. (delivered at St. Bartholomew's Hospital). —Mr. Paget, referring, in the course of a clinical lecture, to a case of lithotomy recently under his care in the hospital, said :

The boy lately operated on for stone had scarlatina; at least an eruption exactly like that of scarlatina appeared over nearly the

whole surface on the day after the operation, with general febrile disturbance. Two days later, it began to fade ; and in a few days had disappeared, and left him in about the same state that we may suppose he would have been in if no such illness had occurred. All went on well for a month ; the wound was nearly healed ; and he was deemed convalescent, when, perhaps in consequence of exposure to cold, he had severe pain in passing urine, and evacuated with it a considerable quantity of blood from the kidneys, and tenacious mucous. Two days after this, he had sore-throat ; then an eruption like scarlet fever, again appeared ; and it continued for three days, and was succeeded by desquamation. The urine in about ten days had gradually regained its natural condition, and he again seemed well. But now whooping-cough set in, and again retarded, though it did not finally prevent, recovery.

If I had never seen a case similar to this, I should have hesitated to call it scarlatina ; for the symptoms of the first attack were very incomplete, and those of the second were unusual and disorderly. But I believe the case was really one of scarlatina, modified by the circumstances in which it occurred ; and that it may be reckoned with other similar cases in illustration of some interesting general principles.

About this time last year, when scarlatina was very prevalent, I saw six cases after operations in private practice ; I have notes of four more that occurred either before or since ; and I have heard of many more. By some, these cases may be supposed to have been only casual coincidences of scarlatina with surgical diseases ; but, if they were so, we ought to find a proportionate number of cases among surgical patients not operated on. But this does not happen. In private practice, I do not remember to have seen scarlatina supervene in any surgical cases except those in which operations had been performed ; and, in hospital practice, I doubt whether it is much more frequent among all the other patients taken together than it is in those who have been operated on. I cannot, therefore, doubt that there is something in the consequences of surgical operations which makes the patient peculiarly susceptible of the influence of scarlatina poison. And, together with this susceptibility, we may observe that the disease undergoes in them certain modifications, especially in the period of incubation, which is much shortened. In all the ten

cases that I have noted, the eruption appeared within a week after the operation ; and in eight of them, within three days after it ; namely, in two cases, on the first ; in three, on the second ; and in three, on the third day. Other deviations from the typical course of scarlatina were, that in some of the cases the eruption came out over the whole surface at once, and on the limbs more fully than on the face and chest : in some, there was no sore-throat ; in others, no desquamation.

The cases are not numerous enough to determine the import of these variable deviations from the type of scarlatina ; but that in which all of them, whether complete or incomplete in other characters, agreed, namely, the very early period after the operation at which the rash appeared, deserves particular notice. It adds to the evidence, that the appearance of scarlatina is in some way connected with the early consequences of operations. If it were not so, and if patients after operations had only the same liability as others, there would be no reason why the eruption should appear early, rather than late, after the operation ; but, so far as I have seen, it always appears early—always within the first week.

Two explanations may be offered of this fact. Either the condition induced in a patient by a surgical operation is one that gives a peculiar liability to the reception of an epidemic or contagious morbid poison, and any one of these, being imbibed immediately after the operation, produces its specific effect in much less than the usual period of incubation ; or else those who suffer with scarlatina within a few days after operation had previously imbibed the poison, but would not have manifested its effects so soon, if at all, unless their health had been exhausted or disturbed. The second of these explanations appears rather the more probable ; for it is in accordance with what has been observed when many persons have been exposed to the contagion of fever, and some have been afterwards exhausted by fatigue or otherwise. These have had fever ; while those who rested after exposure have escaped it.

But whatever explanation may be given, the fact of peculiar liability to scarlatina after operations seems certain, and may be important in relation both to the pathology of the disease and to the risks of surgery. In one of the cases which I have seen, it was fatal ; in another, it was followed by fatal pyæmia ; and I think it not improbable that, in some cases, deaths occurring with

obscure symptoms, within two or three days after operations, have been due to the scarlet fever poison hindered, in some way, from its usual progress.—*British Med. Journ.*

Hydrocyanic Acid in Mania.—A celebrated doctor of mental disease, Dr. MACLEOD, having been lead to investigations by the use which has been made of the cherry-laurel water, and of other matters containing cyanogen, in mania, and thinking that their ineffectiveness resulted from their mode of preparation, experimented with prussic acid even in that frequent form of mental aberration, and his attempts were crowned with success. When writers say that there is no therapeutic treatment for mental diseases, and put forward manual labor as the best thing that could be done, it is necessary to answer these opinions by proofs of the contrary. M. Brierre, of Boismont, whose word cannot be suspected of partiality in this matter, has already made protestations against these imprudent assertions, and it would be desirable that all those who think the same would say so. It is for this reason that we give Dr. MacLeod's report.

Out of forty cases which he has experimented upon, there were thirteen of acute mania, and four of chronic mania; two of puerperal mania, and one of intermittent mania; four with epileptiform fits, two of which were accompanied with menstrual derangements; two with hemiplegia; five with general paralysis; one with chronic hydrocephalus. Altogether thirty-four cases of mania, and six with acute or chronic melancholia with over-excitement. Eight of these different cases reported at full length allow us to appreciate their character and their severity.

The preparation that was chosen was constantly Scheele's acid diluted, at a dose of from two to five drops, either in a watery solution internally, or added to thirty drops of water in subcutaneous injections with Wood's syringe.

Beyond this dose accidents might occur, and it is prudent to stop at five drops. If it does not take effect rapidly the dose can be repeated, and if the over-excitement, after having disappeared, reappears, a second dose will surely quiet it. The interval of these repeated doses must vary according to the nature of the case from five to fifteen minutes, as long as it has not produced

its effect. It can be of one or two hours when its action wants to be kept up, and then it can be left to the judgment of an intelligent nurse.

In every case this remedy has acted when the natural course of the disease, its etiological effects as well as the diet, the moral treatment, and other causes acting simultaneously with it, have also been considered. Acting on the mind, and consisting principally in the gradual cessation of excitement, with or without sleep, it has never failed, although varying in intensity and in durability according to the case. Therefore it was slower, lighter in mania and acute and chronic melancholia with organic lesions, than in the opposite case, where it was immediate and continuous. It was also instantaneous in the violent fits of epileptiform and menstrual mania, and in the acute paroxysms of melancholia.

The effect was immediate when, for example, a patient was roaring, jumping, swearing, he became quiet, sat down, and sometimes even fell into a deep sleep, from one to five minutes after the administration of the remedy; gradual when the paroxysms were diminished, distant, anticipated, and that the patient became more reasonable, sociable, and docile. These mental manifestations having reached a degree evident to everybody, and acknowledged by the patients themselves, are independent of any physical phenomenon. Twice only the pulse became slower, weaker, and slightly irregular, which perhaps was owing to the difficulty of observing it in such cases. The dose having been given too strong in two other cases, it produced coma with adynamia, foam at the mouth, difficulty in breathing, and quick pulse, as before an epileptic fit. Slight headache, with nausea, and a special constriction of the throat, with involuntary incapacity of motion, were felt in other cases a few minutes after having taken the medicine.

In the forty cases in question the effect of the medicine was light, ten times temporary—that is to say, that the amelioration was only for a time without any action on the cause of the disease. The patients ceased to be violent, uneasy, noisy, excited, destructive, became more tractable, and a great deal better inclined for a moral and dietetic treatment. This result has been observed in a case of puerperal mania where the dose of the remedy had been insufficient, and in two cases of acute mania and melancholia

where its use was not continued. In three acute manias and one puerperal mania the intensity of the disease soon made it fatal, and in two recent manias the effect, although real, was completed by other means, and a cure was obtained.

Nineteen times the action was more pronounced and permanent, though the disease remained stationary or progressed. Such were the five cases of general paralysis, five chronic manias, and three melancholias, whose acute paroxysms were dissipated by these means. The same way in a case of insanity with great excitement, and four epilepsies, two of which had very prolonged fits under the influence of menstruation, one hysterical mania, and one puerperal mania, in which tranquility and sleep were obtained where other means had failed, and two other manias, with hemiplegia and hydrocephalus.

This medicine has, on the contrary, acted a most useful part in the rapid cure of eight cases, six of which were acute manias, and two melancholias. It has therefore great advantages by the rapidity, certainty, and simplicity of its calming effects, the facility of its use, and the absence of any consecutive accidents. Its use is indicated in all cases of mental diseases with over-excitement as an antagonist of this pathological phenomenon, without, however, preventing the simultaneous use of other means of cure. It is thereby superior to baths, opium, and bloodletting, which it is designed to supersede.—*Dub. Med. Press*, May 4, 1864, from *Journ. de Med. de Bruxelles*.

What Protects the Stomach against its own Secretions.—This question was discussed some time ago by Dr. PAVV before the Royal Society. He stated that the “living principle,” suggested by John Hunter as the protecting agency, did not stand the test of experiment, for it had been shown that the tissues of living animals might be dissolved by the stomach secretion; the prevailing notion, he observed, that the mucous lining of the organ served as its source of protection, by its susceptibility of constant renewal during life, was equally untenable, for he had found by experiment that a patch of entire mucous membrane might be removed, and food would be afterwards digested in the stomach, without the stomach itself presenting the slightest sign of attack. The

view propounded by Dr. Pavy was one dependent on chemical principles. The existence of acidity was an absolutely essential condition for the accomplishment of the act of digestion.

Now, the walls of the stomach being permeated so freely as they are during life by a current of alkaline blood, would render it impossible that their digestive solution could occur. After death, however, the blood being stagnant, there would not be the resistance to the penetration of the digestive menstruum, with the retention of its acid properties, that existed during the occurrence of a circulation, and thus the stomach became attacked, when death took place during the digestive process, notwithstanding it had previously been maintained in so perfect a state of security. Dr. Pavy, in advocating this view, brought forward experiments which showed that digestion of the stomach might be made to take place during life. Whenever the circumstances were such that an acid liquid in the stomach could retain its acid properties whilst tending to permeate the walls of the organ, gastric solution was observed. The question of result resolved itself into degree of power between acidity within the stomach and alkalinity around. It did not appear that the digestion of living frogs' legs and the extremity of a living rabbit's ear, introduced through a fistulous opening into the stomach, offered any valid objection to his view. A portion of living stomach was surrounded by a ligature, digestion was suffered to go on, and it was found that the ligatured portion was digested, the remainder of the organ escaping.

In the case of the frog's leg, it might be fairly taken that the amount of blood possessed by the animal would be inadequate to furnish the required means of resistance. In the case of the rabbit's ear, the vascularity of it being so much less than that of the walls of the stomach, there was nothing unreasonable in conceiving that whilst the one received the other might fail to receive protection from the circulating current, on account of the disparity of power that must belong to the two.—*Dublin Med. Press*, Aug. 31, 1864.

Musket Ball found in the Pericardium.—Dr. H. G. Croley related to the Surgical Society of Ireland the following example of this:—

J. R., æt. 74, pensioner of 83d Regiment; was in twelve battles; was wounded by a bullet over the left breast at the battle of Salamanca, 22d July, 1812. He enjoyed good health until a couple of years ago, when he got an attack of bronchitis, and has since never been free from it. After being wounded he never could lie on his right side, and felt most comfortable on the wounded side. He was conscious of the bullet being lodged in his chest, and often said he felt it move and drag his heart when he turned on the right side. He also said he wished to be opened whenever he died, in order that the bullet might be got. I was called on to visit him repeatedly during the last year. He suffered from anasarca of feet, legs, and upper extremities, as well as slight ascites. He had no abnormal sound of heart. He had bronchitis and intense difficulty of breathing, latterly amounting to orthopnœa. He drank a good deal of spirits. He was admitted under my care into the City of Dublin Hospital on the 26th of this month, and died the following day. On making the post mortem examination, the bullet was found lodged in his pericardium, *encysted* and beneath the right auricle, between the orifices of superior and inferior venæ cavæ. There was not much fluid in the cavity of pericardium, but some old adhesions existed indicative of pericarditis, which most probably were produced by the gunshot wound. His heart, as may be observed, was very much hypertrophied and dilated. His liver was smaller than natural, and of a slight nutmeg hue. The kidneys were not either very healthy or diseased, the only evidence of disease being the facility with which the capsule was detached. The man's wife gave me the history of his case so far as I have detailed it.

Fournier mentions the case of a soldier who received a gunshot wound of the chest, and was taken up for dead on account of the severe bleeding which had occurred. By great care, the flow of blood began to diminish on the third day; his strength insensibly increased, suppuration came on, and many splinters of bone exfoliated. After three months the wound was healed, the patient's health restored, without other inconvenience than frequent palpitations of the heart, which harassed him for three years. During the following three years they became less troublesome, and he then died of disease *unconnected* with his heart. On examination, the cicatrix was found very deep, with loss of substance of the

fractured rib. The ball was found lodged in the right ventricle of the heart, near its tip, enfolded in a great measure in the pericardium, and resting on the septum medium.

Ploncquet also recites a case where a ball lodged in the anterior ventricle of the human heart, where it is said to have remained for years.

Sir A. Cooper mentions a case in which a man was wounded by another with a reaping-hook deeply through the cartilages of the ribs. The wound was small but deep, and the man had the appearance of one who had sustained a dangerous injury. In two or three days more he began to swell, and could not lie down in bed. He lived a fortnight or three weeks, and after death it was discovered that the hook had penetrated his pericardium, in which there was an effusion of bloody pus.

Hermen relates a case of bayonet wound of paricardium and diaphragm; patient recovered of immediate effects of injury, and died in three months of pneumonia. There were old adhesions.—*Dublin Med. Press*, June 15, 1864.

Death from Chloroform.—An inquest has been held at the Bath United Hospital on the body of John Downing, aged fifteen. Mr. R. T. Gore, surgeon of the hospital, said that the boy was admitted with a crippled leg, which no treatment could benefit. Amputation was resolved on, and on examination of the patient, made especially with reference to the heart's action, there appeared nothing to forbid the use of chloroform. The operation was successfully performed, but signs of failing circulation appeared, and death ensued in about ten minutes. Verdict: Died from the administration of chloroform through misadventure.—*Lancet*, 1864.

Poisoning by Atropine treated by Opium.—Dr. REHU gives the case of a child, aged three years, to whom he was called twelve hours after it had drunk some solution of atropine, supposed to contain about one-sixth of a grain. Emetics and antidotes at so late a period were out of the question, and he contented himself with combating the exalted condition of the nervous system which ensued, by exhibiting powders containing one-eighth of a grain of opium, five of which were taken before tranquil sleep, that ended in complete recovery, ensued.—*Dublin Med. Press*, Sept. 7, 1864, from *Journal fur Kinderkrank*, 1864.

